

**Final Agenda**

Time	Agenda Item	Speaker
8:00 a.m.	Call to Order & Introductions	Keith Grellner, Board Chair
8:15 a.m.	1. Approval of Agenda—Possible Action	Keith Grellner, Board Chair
8:20 a.m.	2. Approval of August 9, 2023, Minutes – Possible Action	Keith Grellner, Board Chair
8:25 a.m.	3. Public Comment	Please note: Verbal public comment may be limited so that the Board can consider all agenda items. The Chair may limit each speaker’s time based on the number people signed up to comment.
8:45 a.m.	4. Announcements and Board Business	Michelle Davis, Board Executive Director
9:00 a.m.	5. Chelan-Douglas Health District Update	Dr. James Wallace, MD, MPH, Interim Health Officer, Chelan-Douglas Health District Luke D. Davies, MPH, Agency Administrator, Chelan-Douglas Health District
9:45 a.m.	Break	
10:00 a.m.	6. Briefing – Newborn Screening Technical Advisory Committee Recommendations – Possible Action	Kelly Oshiro, Board Vice Chair Nirupama Shridhar, Department of Health John Thompson, Department of Health Molly Dinardo, Board Staff

**Notice of Public Meeting**  
 Monday, October 9, 2023, 8:00 a.m. – 11:30 a.m.  
 Physical meeting location:  
 Confluence Technology Center  
 Methow River Room  
 285 Technology Center Way #102,  
 Wenatchee, WA 98801  
 Virtual meeting: ZOOM Webinar  
 (hyperlink provided below)  
 Language interpretation available

Time	Agenda Item	Speaker
10:35 a.m.	7. Rules Briefing – <a href="#">On-Site Sewage Systems</a> , Chapter 246-272A WAC	Keith Grellner, Board Chair Stuart Glasoe, Board Staff Jeremy Simmons, Department of Health
11:15 a.m.	8. Board Member Comments and Updates	
11:30 a.m.	Adjournment	

- **To access the meeting online and to register:**  
[https://us02web.zoom.us/webinar/register/WN\\_v7fq-QloTM6MH3pE6pyXxA?fbclid=IwAR1PnBW\\_03kwt6eC5XtIjFZHcePIImesIIsaJe63C-VVMGfAHhZAI-1\\_ETE#/registration](https://us02web.zoom.us/webinar/register/WN_v7fq-QloTM6MH3pE6pyXxA?fbclid=IwAR1PnBW_03kwt6eC5XtIjFZHcePIImesIIsaJe63C-VVMGfAHhZAI-1_ETE#/registration)
- **You can also dial-in using your phone for listen-only mode:**  
 Call in: +1 (253) 215-8782 (not toll-free)  
 Webinar ID: 814 6727 5344  
 Passcode: 682856

**Important Meeting Information to Know:**

- Times are estimates only. We reserve the right to alter the order of the agenda.
- Every effort will be made to provide Spanish interpretation, American Sign Language (ASL), and/or Communication Access Real-time Transcription (CART) services. Should you need confirmation of these services, please email [wsboh@sboh.wa.gov](mailto:wsboh@sboh.wa.gov) in advance of the meeting date.
- If you would like meeting materials in an alternate format or a different language, or if you are a person living with a disability and need [reasonable modification](#), please contact the State Board of Health at (360) 236-4110 or by email [wsboh@sboh.wa.gov](mailto:wsboh@sboh.wa.gov). Please make your request as soon as possible to help us meet your needs. Some requests may take longer than two weeks to fulfill. TTY users can dial 711.

**Information About Giving Verbal Public Comment at Hybrid Meetings:**

PO Box 47990, Olympia, WA 98504-7990  
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- For the public attending in-person: If you would like to provide public comment, please write your name on the sign-in sheet before the public comment period begins. We strongly encourage people to sign up with the Board by sending an email by 12:00 Noon the last business day before the meeting to: [wsboh@sboh.wa.gov](mailto:wsboh@sboh.wa.gov). As this is a business meeting of the Board, time available for public comment is limited (typically 2 to 4 minutes per person). The Chair will call on those who have signed up to speak to the Board, first. The amount of time allotted to each person will depend on the number of speakers present. If time remains, those who have not signed up ahead of time to speak to the Board will be called on to speak until the scheduled time for Public Comment comes to an end.
- For the public attending virtually: If you would like to provide public comment, please sign up through the Zoom webinar link by 12:00 Noon the last business day before the meeting. Your name will be called when it's your turn to comment.

### Information About Giving Written Public Comment:

- Please visit the Board's [Meeting Information webpage](#) for details on how to provide written public comment.

# WASHINGTON STATE BOARD OF HEALTH

## Draft Minutes of the State Board of Health

August 9, 2023

Hybrid Meeting

ASL (or CART) and Spanish interpretation available

Physical meeting at:

Capital Campus, John A. Cherberg Building, Conference Room ABC

304 15 Ave SW, Olympia, WA 98501

Virtual meeting: ZOOM Webinar

### State Board of Health Members present:

Keith Grellner, RS, Chair

Kelly Oshiro, JD, Vice Chair

Patty Hayes, RN MN

Tao Sheng Kwan-Gett, MD, MPH, Secretary's Designee

Dimyana Abdelmalek, MD, MPH

Stephen Kutz, BSN, MPH

Socia Love-Thurman, MD

Kate Dean, MPH

### State Board of Health Members absent:

Melinda Flores

### State Board of Health staff present:

Michelle Davis, Executive Director

Melanie Hisaw, Executive Assistant

Michelle Larson, Communications

Manager

Anna Burns, Communications Consultant

Stuart Glasoe, Health Policy Advisor

Molly Dinardo, Health Policy Advisor

Andrew Kamali, Health Policy Advisor

Jo-Ann Huynh, Administrative Assistant

Grace Cohen, Department of Health

Hannah Haag, Community Outreach

Coordinator

Lindsay Herendeen, Health Policy Analyst

Cait Lang-Perez, Health Policy Analyst

Miranda Calmjoy, Health Policy Analyst

Lilia Lopez, Assistant Attorney General

### Guests and other participants:

Anneke Jansen, Department of Health

Jeremy Simmons, Department of Health

Todd Phillips, Department of Health

Kelly Cooper, Department of Health

Keith Grellner, Chair, called the public meeting to order at 9:02 a.m. and read from a prepared statement (on file). Board Member introductions followed.

## 1. APPROVAL OF AGENDA

**Motion:** Approve August 9, 2023 agenda

**Motion/Second:** Member Hayes/Member Dean. Approved unanimously

## 2. ADOPTION OF JUNE 14, 2023 MEETING MINUTES

**Motion:** Approve the June 14, 2023 minutes

**Motion/Second:** Member Kutz/Love-Thurman. Approved unanimously

## 3. PUBLIC COMMENT

Chair Grellner opened the meeting for public comment and read from a prepared statement (on file), allowing for 3 minutes per person.

Melissa Leady, public participant said the Department of Health (Department) COVID-19 report provided no data on the bivalent booster and the information was shared in a utilitarian way to support the narrative. M. Leady encouraged the Board to look closely at the bivalent booster data and to stop recommending vaccines if the data isn't showing effectiveness.

Bill Leady, resident of Clark County recognized many benefits of the work at the Department such as safe drinking water, food safety, Woman, Infant, and Childrens (WIC) program and many programs that go unnoticed or taken for granted. B. Leady talked about how trust in public health is important. B. Leady said the public health narrative was wrapped in political misinformation and disinformation campaigns and is now spending \$15 million dollars to change the public perception. B. Leady talked about the loss of public trust when livelihoods are considered non-essential, when the narratives are everchanging, when the public is seen as having evil intentions and the importance of factual information.

Gerald Braude, Jefferson County, talked about the Vaccine Adverse Reporting System (VAERS) report and four more deaths from the COVID-19 shot, numbers increasing from 2,019 to 2,023. G. Braude talked about reports of first-time blood clots. G. Braude talked about the dangers of the vaccine, and the evidence against shots preventing transmission, especially for our youth.

Lisa Templeton, Informed Choice Washington, talked about trust-based public health approaches. L. Templeton shared the comments last month of Dr. Kevin Bardosh, Affiliate Assistant Professor at the University of Washington (UW), at a House Oversight Subcommittee hearing in DC. Dr. Bardosh said their analysis strongly suggests that mandatory COVID-19 vaccine policies have had damaging effects on public trust, vaccine confidence, political polarization, human rights, inequities, and social well-being.

Sue Coffman, Clallam County, said under the law people don't yield sovereignty to public servants and agencies, and the public insists on remaining informed to have control. S. Coffman said the law was ignored for the last 3 years, and that the public was ignored, disrespected, and betrayed.

Liz Stumpf, lifelong WA resident and residing in Everett, talked about WAC 246-260-031 and the petition they submitted. L. Stumpf thanked the Board for listening and shared their story about a lifelong passion and skill for swimming, and a diagnosis of MS at age 26. With the disease progression and physical limitation to a wheelchair, swimming is

critical. L. Stumpf cannot open the door handle from their wheelchair in the pool facility due to the current Board pool safety rule. L. Stumpf advocated for change to the pool child safety law regarding the level of the latch.

Natalie Chavez, commented on a recent Vaccine Advisory Committee (VAC) meeting, and said it seemed community voices didn't matter, as public comment was last on the agenda, and people were given 1.5 minutes to comment. N. Chavez appreciates the Board having public comment at the beginning of the meeting. N. Chavez talked about ongoing cardiac risk and incidents from the COVID-19 vaccine and shared a cardiologist comment that COVID-19 mandates were a disaster and induced myocarditis, and research is urgently needed.

Craig Boothe, President of Lake Chelan Lions Club and Chairman for Sight, asked for changes to WAC 246-760-030, to allow use of otoacoustic emissions (OAEs) in screening for hearing anomalies. C. Boothe said many hospitals and doctors are now using OAE to screen children up to five years old. C Boothe said the Lions Club does the majority of screenings in Washington and the United States, and believes using OAE will give the ability to screen more students accurately. C. Boothe said using both OAE and pure tone auditory screening methods are good for testing early, saying about 10% of children have hearing problems and 2% have serious hearing issues.

Bill Osmunson, a dentist for 5 decades, talked about years of requesting the Board to remove the fluoride recommendation from their website. B. Osmunson said there is significant IQ loss from lead and fluoride toxins, and the Washington Board of Pharmacists label fluoride a prescription drug. B. Osmunson said that most developed countries do not require fluoridation, and asked what empirical scientific evidence the Board has on this public health policy.

Bill Lundin, Chairman of Northwest Lions Foundation, said over 200 Lions Clubs provide school hearing screenings to about 80,000 to 100,000 kids. B. Lundin urged the Board to adjust the WAC to allow otoacoustic emissions (OAEs), along with the pure tone auditory screening methods. B. Lundin said the current auto acoustic equipment takes time, and teachers want screenings to go fast. If children fail the OAEs, they can be put through other screenings. B. Lundin advocated for an immediate start, saying the money available now in grants could be lost if not used in the 23-24 school year.

#### **4. BOARD ANNOUNCEMENTS AND OTHER BUSINESS**

Michelle Davis, Board Executive Director said that Member Flores would not be attending the meeting. Executive Director Davis directed Board Members to materials in their packets, including the Emergency rule for On-site Sewage systems, the order or adoption extending the implementation date for the school rules. Executive Director Davis described the Board's Community Compensation Guidelines, the legislative background for stipends for individuals with lived experience and shared the staff's commitment to incorporating equity into their work. Executive Director Davis thanked Molly Dinardo, Board staff for leading the effort to develop the guidance. Executive Director Davis also announced that the Foundational Public Health Services (FPHS) Committee had approved the Board's 2023-2025 FPHS spending requests.

Kate Dean, Board Member, commented in support of the community compensation guidelines. Member Dean asked who might be eligible. Executive Director Davis said that the team would be prioritizing limited funds for committee members not receiving compensation. Executive Director Davis said the team would also explore utilizing these funds for Health Impact Review key informants. Molly Dinardo, Board staff said that under state law, the funds are allowed for both one-time and ongoing activities. Kelly Oshiro, Board Member emphasized the importance of compensating Technical Advisory Committee volunteers for Newborn Screening.

Executive Director Davis announced that the next regularly scheduled Board meeting would be held on October 9, at the Confluence Technology Center in Wenatchee. Executive Director Davis reminded Board Members about the Washington State Public Health Association Conference in Wenatchee. Executive Director Davis also indicated that the Board had recently received a number of comments that did not fall under the Board's authority, such comments related to mask mandates, the Department's vaccine advisory committee, and the Department's budget requests. Executive Director Davis said that for topics such as these, staff forward them onto the agency that has authority.

Patty Hayes, Board Member, expressed appreciation for the public comment process and making sure comments are funneled to the appropriate authority. Member Hayes noted that the Board doesn't have authority over the Departments budget, licenses, etc.

Stephen Kutz, Board Member, inquired about petitions such as the water recreation and audiology screening request on today's agenda. Executive Director Davis said under state law, the Board has 60 days to respond to petitions.

## **5. FISCAL YEAR 2023 HEALTH IMPACT REVIEW UPDATE**

Caitlin Lang-Perez, Board staff, Lindsay Herendeen, Board staff, Miranda Calmjoy, Board staff, provided a presentation on Health Impact Reviews (HIRs) with a history of HIRs and how they can be utilized. They also provided data on the subject matter of HIRs since their inception. The presentation included the feedback the HIR team received related to their work. Since 2014, the HIR team has completed 120 HIRs. To date, the team has finalized 2 HIRs and 3 are pending additional information.

Stephen Kutz, Board Member stated that it is unbelievable what has happened around HIRs and addressed how HIRs have impacted the policy-making process. Member Kutz asked if there is a place where the HIRs are cataloged. Member Kutz appreciates the power of these reports and notes that this is one of the only states where HIRs take place. Caitlin responded that a catalog is on the Board's website at [Health Impact Reviews | SBOH \(wa.gov\)](#). Caitlin explained that HIRs are available on the website, including the request form, executive summary and full report. Caitlin also explained that HIRs may be searched within the archive by category or key terms.

Kate Dean, Board Member asked if the HIRs are included with the bill materials on the legislative website.

Michelle Davis, Board Executive Director, stated the team has had conversations with key legislative staff in the past, but because this information is generated outside the legislature, it is not included in the legislature's materials.

Member Dean talked about her involvement in county legislative work and asked how the HIRs can be disseminated more easily to inform negotiations in real time? Member Dean shared that information can be weaponized and appreciates the non-partisan structure of HIRs. Member Dean shared support for protecting the efficacy of HIRs.

Tao Kwan-Gett, Chief Science Officer, Secretary's Designee, thanked the HIR team for their work and emphasized the importance of lawmakers having access to non-partisan scientific information. The HIR team noted the value of anecdotes from both sides of the aisle reflecting on the usefulness of HIRs. The team indicated such anecdotes are helpful to include HIR outreach.

Patty Hayes, Board Member added her thanks particularly for the one-on-one time with the HIR staff. Member Hayes commented on the effectiveness of the equity approach. Member Hayes would like to create a more active approach to informing folks about the effectiveness of HIRs. Member Hayes said this serves as a national model, particularly the non-partisan outside agency aspect. Member Hayes offered to assist in a speaking tour to inform other agencies and organizations about the HIR. Member Hayes asked the Board to prioritize outreach.

Member Kutz expressed appreciation for HIR team efforts.

Keith Grellner, Board Chair, concurred and recognized the effectiveness of the reviews.

## **6. THURSTON COUNTY PUBLIC HEALTH UPDATE**

Dimyana Abdelmalek, Board Member, Health Officer, Thurston County provided a presentation on the Thurston County Public Health and Social Services department (PHSS), including information on the county's mission and values. Dr. Abdelmalek described Thurston County as the sixth most populated county in Washington and explained that Thurston County has a population of 303,400 with a population density of 419 people per square mile in metropolitan and rural areas. Median household income is over 80K and 9.9% live in poverty. The county mirrors the state population, but we do have a larger over 65 population. Racial and ethnic makeup also mirrors the state.

Dr. Abdelmalek said Thurston County is a public health and social services department, and its work includes everything from community health to vital services. Dr. Abdelmalek said because Thurston County provides social services, there are significant areas in housing and homelessness prevention.

Dr. Abdelmalek discussed the challenges of the county and said while the county continues to support COVID mitigation services, the department is now able to refocus staff back onto the other areas. Dr. Abdelmalek talked about the value of increased relationship building with community members and organizations as a result of the pandemic, which enabled the department to work with people and organizations from diverse backgrounds with different perspectives. Dr. Abdelmalek discussed the lessons learned from the pandemic, including training and operations structures, to strengthen external and internal programming and relationships.



Dr. Abdelmalek said Thurston County Public Health is in the process of redesigning the department's structure, noting a refocus on Foundational Public Health Services (FPHS). The department has examined the services they provide and is working to increase access, much of this work is informed by the community members and the population-based data.

Dr. Abdelmalek commented on the department's efforts to strengthen the internal programming and integrating new opportunities into their structure. Dr. Abdelmalek said the department is increasing its focus on communicable diseases and described a listeria outbreak that involved a Thurston County resident.

Dr. Abdelmalek discussed maternal and child health programs and environmental health projects and said the department is taking a holistic approach to the health of those with a substance use disorder and focusing on other issues such as immunizations, housing and houselessness and emergency preparation.

Dr. Abdelmalek focused on next steps and continued support for those who live, work, and play in Thurston County, which includes identifying areas of improvement for communities, such as outreach through social media campaigns and a website redesign. They are also using data informed community focused approaches to tackle public health challenges.

Patty Hayes, Board Member expressed appreciation for the presentation and said local health should be more prevalent at Board meetings. Member Hayes asked how local public health is working with the implementation of new rules.

Dr. Abdelmalek said their teams have appreciated the ability to weigh in on the rulemaking process, the communication and outreach by the Board with other local health jurisdictions (LHJ) related to communicable diseases, and the opportunity to engage and share the local perspective and what implementation looks like on the ground.

Keith Grellner, Board Chair, thanked Dr. Abdelmalek for the work they are doing at Thurston County. Chair Grellner noted the work that Thurston County has done with the legislature and thanked Dr. Abdelmalek and their department on behalf of other LHJs.

Tao Kwan-Gett, Chief Science Officer, Secretary's Designee, thanked Dr. Abdelmalek for all their work and engagement with the Department of Health. Member Kwan-Gett asked how the social services aspect impacts their work.

Dr. Abdelmalek responded that the inclusion of social services helps inform the public health work and increases staff expertise as well as community engagement.

Member Kutz asked about the .09% additional optional sales tax. Dr. Abdelmalek explained that funds are split between different services.

Socia Love-Thurman, Board Member, asked about child and maternal health and injury prevention. Dr. Abdelmalek said this program is in its early stages and it spans across organizations. Thurston County is working with communities to see what the specific burden of injuries is and is working on information sharing, data gathering, and analysis pieces.

The Board took a break at 11:27 a.m. and reconvened at 11:37 a.m.

## 7. OVERVIEW OF LEAD PREVENTION PROGRAMS

Keith Grellner, Board Chair, brought the meeting back to order, and welcomed Molly Dinardo, Board staff, who introduced Anneke Jansen from the Department of Health (Department), and Kathy Ross from the Tacoma-Pierce County Health Department (TPCHD) to present on childhood lead poisoning prevention programs.

Anneke Jansen, Department of Health provided an overview of the Department's Childhood Lead Poisoning Prevention Program (CLPPP), including data related to childhood lead screening and blood lead levels in Washington State and information on the Department's prevention work. Anneke also provided an overview of the Department's work with partners. See the presentation on file.

Kathy Ross, Tacoma Pierce County Health Department (TPCHD), provided an overview of TPCHD's lead poisoning prevention program, which conducts case management, promotes blood lead testing, conducts community education and engagement, and builds infrastructure. Kathy stated that TPCHD is in a leadership response role for local health jurisdictions' lead poisoning prevention work. Kathy shared that TPCHD is developing a model program (e.g., toolkits, trainings, shared services) that can be used by other local health jurisdictions to work on lead poisoning prevention. See the presentation on file.

Kelly Oshiro, Board Vice Chair, stated that lead poisoning disproportionately impacts families that live below the poverty line. Vice Chair Oshiro emphasized that racism is a public health crisis and would like to see information about testing presented by income and race/ethnicity. Vice Chair Oshiro also expressed appreciation for the Department's work with immigrant and refugee communities and noted that there are several areas of opportunity for legislative action, including mandatory screening for daycares, and collection of data by race/ethnicity. Vice Chair Oshiro inquired about the data overlay of testing in Pierce County that Kathy presented, and asked of the children being tested, how many are on Medicaid compared to those who are not. Vice Chair Oshiro commented on the opportunity to work with the Health Care Authority (HCA) and that these types of data will be necessary to support future asks.

Kathy stated that one of the challenges is that insurance information is not always collected in blood lead screening results. Anneke stated that the Department is currently working with the HCA on data sharing and matching agreements.

Patty Hayes, Board Member, commented on the length of time it takes for data-sharing agreements to be put into place between state agencies and that the process should be more seamless. Member Hayes said that access to Medicaid data is also challenging for local health jurisdictions and emphasized the need for public health entities to maintain existing agreements and move forward with more transparency related to future data sharing. Member Hayes mentioned that data sharing agreements for Medicaid data with HCA should remain on the Board's list of priorities and that over the years and shared the Washington Chapter of the American Academy of Pediatrics, has been a key partner in ongoing conversations. Member Hayes also expressed that this is

an example of the move to the medical home that happened in Washington a long time ago, which resulted in a separation of public health and the practice environment. Lead poisoning prevention programs are a good example of this because public health is still trying to figure out its role in this work. Member Hayes commented that if testing doesn't occur in the provider office (e.g., for reimbursement, time, or lab-related reasons), public health needs to understand the barriers to testing and emphasized that Pierce County's work creates an opportunity to learn about some of these barriers. Member Hayes emphasized the need for public health and pediatricians to work together and noted that the issue is rooted in broader systemic challenges. Member Hayes described work by the Washington Department of Children, Youth, and Families (DCYF) in the early learning setting. Member Hayes said this work was done with funding from the Legislature, and established Help Me Grow with WithinReach. The program brings all the partners together and could be a good resource for the Department and Pierce County to connect with. In response to Vice Chair Oshiro's earlier comment, Member Hayes expressed that even if the Legislature took steps to require mandatory screening for daycares or other entities licensed for childcare, not all children would be included, especially immigrant and refugee children who are more likely to depend on childcare from family, friends, or neighbors. Member Hayes reminded everyone that the Board does not have authority in this area but does have an interest in maternal and child health and would like to talk more about partnering and supporting this work.

Steve Kutz, Board Member, commented that reports on elevated blood lead levels should provide a good understanding of where the lead sources are. For example, lead in soil around old homes, especially near the former Asarco Smelter site in Tacoma. Member Kutz reflected on his time in the military and recalled the soil of every home being tested for lead. Member Kutz also commented on former orchards as a source of lead and said that as former orchard sites are converted to land for homes, effort to prevent lead poisoning impacts children beyond those from low-income families. Member Kutz stated that testing in childcare facilities cannot be the only solution because of the challenges of accessing childcare, as childcare centers are closing across the state. Member Kutz emphasized that the work should be done in physicians' offices. Member Kutz noted an additional challenge is that the Washington Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) program is still conducting many of its visits remotely, further limiting lead testing; it may be challenging for parents to remember if their child was tested, let alone what their levels are.

Kathy stated that TPCHD is still running the Dirt Alert! program that tests for lead and arsenic in soil for homes located in the former Asarco Smelter plume area.

Member Kutz added that the housing infrastructure in Tacoma and a lot of other inner cities have been covered multiple times with lead paint, and it could be in the soil around the area. Member Kutz inquired if maybe there could be a program where there is subsidized lead testing of soil around homes, or maybe a requirement for low-income housing that someone needs to come in and test the soil to ensure it isn't contaminated.

Michelle Davis, Executive Director, thanked the presenters and said that it was great to hear about the impact of Foundational Public Health Services (FPHS) funding on the program. Executive Director Davis noted that whenever the Board hears about shared service opportunities to address these types of issues, it demonstrates the profound

impact that funding from the Legislature can have not only in the immediate community but across the state. Executive Director Davis emphasized that the state public health system has not paid enough attention to lead poisoning prevention efforts and that the work has been unfunded for many decades or relied on federal funding sources that went away. Executive Director Davis recalled past comments from people in the provider community that lead is not an issue in Washington State because our housing stock is not as old as it is on the East Coast, so awareness and education among the provider community is a challenge and might explain some of the low testing rates. Executive Director Davis stated that more work is needed with pediatricians across the state and presents a good opportunity for public health. Executive Director Davis requested the lead poisoning prevention program to come back and share updates at a future Board meeting.

Anneke shared their program's contact information and invited additional conversation, feedback, and ideas from Board Members.

Member Hayes asked that the Department keep the Board actively updated about the State Health Plan Amendment and the data-sharing agreement with HCA.

Member Kutz asked if there is lead uptake in vegetables planted in contaminated soil.

Kathy stated that there can be lead uptake.

Dimyana Abdelmalek, Board Member asked about the Centers for Disease Control and Prevention (CDC) lowered action level of 3.5 micrograms per deciliter (ug/dL) and expressed interest in learning more about the potential impact of lowering the action level from 5 to 3.5 in Washington State.

Anneke stated that the caseload would about double. In places like King County, that doubling could be significant for program and staffing resources.

The Board took a lunch break at 12:37p.m. and reconvened at 1:26 p.m.

## **8. EMERGENCY RULEMAKING – ON-SITE SEWAGE SYSTEMS, WAC 246-272A-0110, PROPRIETARY TREATMENT PRODUCTS AND SUPPLY CHAIN SHORTAGES**

Tao Sheng Kwan-Gett, Chief Science Officer, Secretary's Designee reminded the Board of the need and purpose of the emergency rule to allow the use of comparable replacement parts to maintain proprietary on-site sewage treatment products during supply chain shortages and other manufacturing disruptions and requested a fifth emergency rule in this sequence.

Jeremy Simmons, Department of Health provided an overview of the issue and background on the emergency rule request. Jeremy updated the Board on replacement component approvals to date and the status of permanent rulemaking on the chapter, and said staff plans to brief the Board on the permanent rulemaking in October, and public hearing tentatively scheduled for January 2024. See materials on file.

**Motion:** The Board directs staff to file a fifth CR-103E, Emergency Rulemaking Order, upon expiration of the fourth emergency rule, filed as WSR 23-13-018, to amend WAC 246-272A-0110 to help ensure on-site sewage system proprietary treatment products continue to function properly without negatively impacting treatment, operation, or maintenance during supply chain shortages or other manufacturing disruptions.

**Motion/Second:** Member Kwan-Gett/Member Dean. Approved unanimously.

## 9. RULES UPDATE – [SANITARY CONTROL OF SHELLFISH](#), CHAPTER 246-282 WAC

Patty Hayes, Board Member provided background on Board authority for shellfish sanitation and said the presentation was intended to update Board Members on the Sanitary Control of Shellfish rulemaking in preparation for future discussions. Stuart Glasoe, Board staff gave additional background, noting that the project includes permanent rulemaking on the chapter and emergency rulemaking delegated to the Department on the *Vibrio parahaemolyticus* (Vp) Control Plan.

Dani Toepelt, Department of Health (Department) presented on the purpose and scope of the rulemaking, including meetings with Tribes and the rule advisory committee; emphasis on Vp issues and control measures; emergency rule filing in May 2023 for the Vp Control Plan; independent work on shellfish fee rulemaking being conducted by the Department under separate authority; and next steps for the shellfish sanitation rulemaking. See materials on file.

Steve Kutz, Board Member asked about other possible concerns in the marine waters with increasing heat events, and if sustained high temperatures could impact toxins and algal growth and cause other illnesses.

Dani stated that Washington State has not seen an illness related to more dangerous *Vibrio vulnificus* (Vv) but said it has been detected in oysters on recreational beaches and California just had their first case. Dani mentioned ongoing monitoring for marine biotoxins (paralytic, diarrhetic, and amnesic shellfish poison) and said the rule revision will modify the program from Vp to *Vibrio* generally. The Department has already seen domoic acid in razor clams this year, which is unusual.

Kate Dean, Board Member stated that a shellfish grower shared that they decided not to harvest this summer because they do not have the equipment for cooling, and asked whether the Department considers economic impacts to growers and communities when considering rule changes.

Dani and Stuart outlined the rule analyses requirements, which include a cost benefit analysis as part of the Significant Analysis and a Small Business Economic Impact Statement. Both emphasize cost impacts on businesses. They noted that the fee rulemaking is not subject to the same cost impact analyses.

Member Dean asked if delegated rulemaking would come back to the Board. Stuart said that the fee rulemaking is the Department's authority and will remain with the Department. Stuart explained the working relationship between Board and Department

staff on the permanent rulemaking, and that the delegated emergency rulemaking authority applies only under certain conditions prior to completion of the permanent rulemaking. The Board retains authority for the chapter. The delegated emergency rulemaking allows for quick action by the Department.

Tao Kwan-Gett, Chief Science Officer, Secretary's Designee, asked if there is a relationship between seed size and vibrio. He also asked if these rules impact norovirus or if that is at the restaurant. Dani said the Department sees norovirus in shell stock in rainy months when pollution sources drain to waterways. Dani said trace-back programs help with monitoring and illness investigations. Dani said 2-to-3-inch oysters are made for oyster bars. You can cook out vibrio (not biotoxin) in larger oysters. Oysters are typically consumed raw. Other shellfish are not typically consumed raw.

Keith Grellner, Board Chair said that warming water matters for public health—the warmer the shellfish are, the harder it is to cool them down. Chair Grellner shared personal experience indicating surface waters in the Hood Canal are noticeably warmer and added that the rule changes help keep the industry open and working.

#### **10. PETITION FOR RULEMAKING FOR [WAC 246-260-031](#), GENERAL DESIGN, CONSTRUCTION AND EQUIPMENT FOR ALL WATER RECREATION POOL FACILITIES**

Keith Grellner, Board Chair, briefly introduced the petition for rulemaking regarding water recreation pool facilities and reminded Board Members of the ongoing water recreation rulemaking.

Andrew Kamali, Board staff, provided more details on the petition request related to barrier and latch height at limited and general-use pools to comply with the American with Disabilities Act (ADA). Specifically, the petitioner requested that the Board change the barrier requirements at limited and general-use pools to comply with ADA door height rules and stated in the petition that a latch above 60 inches is not reachable from a seated position, which is a safety issue. In addition, the petitioner stated that barriers should have a continuously locking latch or coated latch at ordinary height, to give equal access to individuals who utilize wheelchairs, while still maintaining child safety and preventing unauthorized entry into pool areas. Andrew shared that the petitioner also mentioned that the current rule language for general-use pools is confusing, because they can technically follow state rules, even if they don't comply with federal ADA door handle requirements.

Andrew gave an update on the ongoing technical advisory committee (TAC) meetings for reviewing and revising the water recreation rules. Andrew noted that at an upcoming meeting, the TAC will be addressing the design and construction of water recreation pool facilities, and that the goal of the committee is to provide inclusive recommendations that are compliant with federal ADA rules and use an equity lens. Andrew mentioned that the petition has been shared with the Department of Health's Water Recreation team and the local health jurisdiction where the pool facility is located to notify them of the ADA complaint and the next steps.

Andrew also shared a document that provided an overview and comparison of existing pool access barrier and latch height rules for the Washington State Administrative Code (WAC), the Model Aquatic Health Code (MAC), the Americans with Disabilities Act (ADA), and State Building Code (see document on file). Andrew highlighted the differences between each rule related to latch height and noted the use of the word “or” in the WAC, which doesn’t require compliance with the ADA guidelines.

Steve Kutz, Board Member, noted that there are competing safety issues with the rules related to children’s access to facilities and the ADA. Member Kutz asked what the minimum requirements are to protect children.

Andrew responded that if a child is 5-7 years old, typically, they can reach a 60-inch latch, but the way around this is by having a locking mechanism that is placed at a height that is accessible. Andrew stated that the WAC was originally written to prevent drowning accidents and other events but didn’t take into consideration how it may impact individuals who can’t reach certain heights.

Member Kutz then asked if the issue raised by the petitioner was being discussed in the current rule review process and TAC meetings.

Andrew confirmed that the topic would be discussed at the TAC meeting scheduled for the first week of October.

Member Kutz commented that the workaround could be to require facilities to have alternative methodologies to access facilities, such as key cards.

Andrew responded that the TAC will be doing more research into the topic related to latch heights and accessible entryways, as another concern is that the current rule doesn’t require accessible entryways. Andrew noted that the TAC would then bring recommended rule language for the Boards review after that.

Lilia Lopez, Assistant Attorney General (AAG), added in response to Member Kutz’s question that the ADA does recognize that there may be safety needs that can take precedence over other requirements and that there needs to be more of a review to see how the WAC, MAC, and ADA guidelines can work together to consider safety, access, and inclusivity.

Member Kutz asked if the Board takes action, if it would require every pool in the state to come into compliance with the emergency rule.

Andrew clarified that they are not considering emergency rulemaking for this request, however, in re-writing the rules and presenting them to the Board to consider as the process continues, the rules don’t typically work retroactively, so it would only be relevant for when facilities are updated, or new facilities are built.

Patty Hayes, Board Member, summarized that the petitioner is asking for a specific alignment between the different rules, which the TAC is already going to consider, and inquired if there is an advantage for the Board to act and send the petition to the TAC for consideration.

Andrew confirmed that it would be helpful for the Board to send this petition to the TAC, and ask the committee to complete additional analyses to see how the Board's rules can come into compliance with federal recommendations.

AAG Lopez added in response to Andrew's earlier comment that the current rule has a compliance regulation within it that would direct existing facilities to comply with rule requirements, meaning they would have to bring their facility requirements up to date, if readily achievable, regardless of remodeling or building a new facility.

Chair Grellner commented that the bottom line is that this will take some work, but the ADA and the water recreation rules can work together, we just have to figure out how to make it work.

Andrew concurred and said the purpose of the TAC is to look at all of the other codes and provide draft language with the Board that allows access for all Washingtonians.

**Motion:** The Board accepts the petition for rulemaking to amend WAC 246-260-031 to be considered as part of the ongoing rulemaking for water recreation facilities and directs staff to notify the requestor of its decision. The Board further requests that the Department direct the TAC to prioritize this section of the rules and brief the Board of the TAC's findings by January 2024.

**Motion/Second:** Member Hayes/ Member Kutz. Approved unanimously.

Kelly Oshiro, Board Vice Chair, added that in Board efforts to be transparent with the petitioner, staff should explain the ongoing work being done to the petitioner related to the TAC. Vice Chair Oshiro also noted that in reviewing the petition again, the Board is addressing pools in this work. Vice Chair Oshiro inquired whether the TAC plans to address the other concerns noted by the petitioner during the earlier public comment in the meeting related to shower and toilet facilities and whether it was within the Board's authority.

Andrew responded that it would be as a water recreation facility encompasses not only pools, but also dressing rooms, bathrooms, and shower facilities.

Chair Grellner thanked the petitioner for bringing this forward.

The Board took a break at 2:15 p.m. and reconvened at 2:30 p.m.

## 11. PETITION FOR RULEMAKING [CHAPTER 246-760 WAC](#), AUDITORY SCREENING STANDARDS IN SCHOOLS

Kelly Oshiro, Board Vice Chair, summarized the Board's petition for rulemaking process, and the statutory requirements the Board must follow when a petition is received. Vice Chair Oshiro stated that on July 26, the Board received a petition for rulemaking request from the Lake Chelan Lion's Club to amend the Board's school



auditory screening standards under Chapter 246-760 WAC to include otoacoustic emission (OAE) screening technology and noted that petition materials are available in the meeting packet. Vice Chair Oshiro reminded Board Members of the public comment received during the public comment portion of the meeting from two individuals from the Lion's Club (one from the Lake Chelan Lion's Club and the other from the Chair of the Northwest Lion's Foundation) on the petition request. Vice Chair Oshiro concluded by introducing Board staff to provide more information on the petition, background on the current auditory screening requirements in the Board's rules, and a high-level overview of national childhood hearing screening guidelines.

Molly Dinardo, Board staff, presented an overview of information relevant to the rulemaking petition, including the ways in which otoacoustic emission (OAE) screening and the pure tone screening tests are different, and an overview of childhood hearing screening recommendations and guidelines from the American Academy of Audiology (AAA) and the American Speech-Language-Hearing Association (ASHA). See the presentation on file.

Vice Chair Oshiro asked if there was a representative from the Office of the Superintendent for Public Instruction (OSPI) online, and Annie Hetzel, School Health Consultant for OSPI, responded yes.

Vice Chair Oshiro asked if Annie could share more information about the role of OSPI, and per the requirement noted in the Board's statute under RCW 28A.210.020, what their recommendation would be on this request.

Annie Hetzel, School Health Consultant, Office of Superintendent of Public Instruction (OSPI), stated that OSPI is charged with supporting education in the K-12 setting, which includes pre-K through the grade 12 setting. Annie serves as a school health services consultant and supports school nurses and health services. Annie shared that OSPI does not have a recommendation on whether to open the rule at this juncture. Annie emphasized that if the rule were to be opened, OSPI would consider factors such as the ease of implementation of any rule change, as well as cost considerations for school districts, and a special focus on maintaining evidence-based practices and centering potential outcomes and benefits for children.

Tao Kwan-Gett, Chief Science Officer, Secretary's Designee, commented on his admiration for organizations such as the Lake Chelan Lions Club, and their involvement in the health of children in the community. Member Kwan-Gett stated that as a pediatrician, not an audiology expert, the recommendation is to rely on guidelines from the Academy of Audiology. Member Kwan-Gett noted the potential of OAE screening to be more time efficient, but in reviewing the AAA guidelines emphasized that it recommends OAE technology for young school-aged children (preschool) or children for whom tonal screening is not appropriate, making it difficult to support a change in practice, unless there was a compelling reason, perhaps a study of the effectiveness of the new screening tool. Member Kwan-Gett also shared that OAE screening technology is typically used by providers to screen infants. For school-aged children, providers typically use pure tonal screening. Member Kwan-Gett said he was reluctant to include OAE for the broader school-aged population, based on his experience with hearing screenings and guidance from the AAA.

Keith Grellner, Board Chair, asked Molly if we know why there is a target age group for OAE, whether it's related to physiological changes, and why the test is limited to early age groups.

Molly did not know the specific mechanisms but stated that OAE technology is generally easier to use because it is more automated. Molly also mentioned that Bill Lundin, one of the petitioners, shared that there are 7 states currently using OAE technology as part of school hearing screening standards, and could send the list of states to Board Members.

Socia Love-Thurman, Board Member, noted that both AAA and ASHA guidelines recommend pure tone screening as the gold standard or ideal first screening test, and inquired if the Board pursued rulemaking if they could explore OAE as an option for students who cannot participate in pure tone screening, but not as a required screening for all school aged children.

Molly responded that if the Board accepts the petition, this could be something staff evaluates through consultation with interested parties and subject matter experts.

Chair Grellner pointed out that in the petition language, it looks like that is what the Lion's Club is proposing, to add the OAE as an option.

Molly clarified that the request is to make OAE screening a primary screening option for school-aged children.

Bill Lundin, Chair of the Northwest Lion's Foundation, stated that they want to be able to screen all children with the OAE technology and, if a child receives a fail result, use tonal screening. Bill L. shared that the Lion's Foundation would like to use OAE as a primary test because of the volume of children they screen, and currently, with the 500 children they screen in a school, they have about a 14% referral rate using pure tone screening, which they are afraid is high.

Steve Kutz, Board Member, stated that hearing is so integral in a child's development and ability to learn that the state must ensure children receive the gold standard screening test at least once. Member Kutz stated concern that if both screening tests are mixed together in hearing screening procedures in schools, who will keep track of which students had what test and who will track the outcomes to make sure they've had the tonal test. Member Kutz read from the guidelines that, ideally, children are to have pure tone screening completed by the time they are five years old, which Member Kutz noted is generally before children enter school. Member Kutz stated that if children haven't had pure tone testing prior to entering school, school hearing screenings are another opportunity for them to get this test.

Molly confirmed that the Board's rules cover students in kindergarten, and there are some early programs that are within school districts, which cover younger populations of students. The Early Childhood Education and Assistance Program (ECEAP) is required to do hearing screenings for children in the program.

Vice Chair Oshiro, inquired about the seven other states that are using OAE screening technology in their schools, and, as a follow-up, would want to know how these states have integrated this technology into their screening standards (e.g., is it a required or optional screening). Vice Chair Oshiro also expressed concerns about whether adding this screening technology would or would not increase equity, specifically, whether the technology would be available for all schools throughout the state or just Chelan County, where the petitioner is located.

Member Kwan-Gett, in response to Chair Grellner's earlier question, clarified with OAE screening, you just get a pass or fail result, whereas, with pure tone screening, it gives you information about at which frequency range a child may have hearing loss, as well as the degree of hearing loss. Member Kwan-Gett also expressed interest in learning more about how other states are using OAE technology and whether this technology has proved to be as sensitive and specific as pure tone screening.

Chair Grellner stated that with the public commenters, the Board heard two things: that the current rule is an issue because it does not permit the use of OAE technology, and there was another issue around factors that fall outside of the purview of the rule, such as a deadline to use grant or other funding to purchase new screening equipment. Chair Grellner mentioned that based on consultation with the Board's counsel, this petition request wouldn't qualify for emergency rulemaking, and the Board may be in a position where they need to gather more information before making a decision.

Member Kutz agreed that this petition request doesn't rise to the level of emergency rulemaking and that the Board needs to hear from subject matter experts on this topic. Member Kutz noted that if the Board decides to proceed to rulemaking, Board Members will get some of the information they are requesting, but given the length of rulemaking projects, it wouldn't be in the timeframe the petitioner is likely hoping for.

Dimyana Abdelmalek, Board Member, stated support for the Board receiving more information. Member Abdelmalek also expressed interest in learning more about the different types of hearing screening technology available today and identifying more recent studies that have tested the use and effectiveness of OAE screening technology across age groups.

Patty Hayes, Board Member, agreed that more information is needed and that this is not an emergency rule. Member Hayes inquired if the best course of action would be to deny the petition and ask staff to gather questions and provide a preliminary report back without opening the rule up. Member Hayes said it would seem the Board could deny the petition and ask for some data, and then come back and decide at another time whether to proceed with rulemaking, but acknowledged this could be duplicative work.

Molly indicated that gathering more information could be an option. Board staff could narrow the scope and bring experts together to give input.

Michelle Davis, Executive Director, outlined several options the Board could take, noting that if the Board were to direct staff to conduct a review and file a CR-101 to initiate rulemaking, it would put the Board one step closer to a proposal and possibly shorten the timeline. Executive Director Davis emphasized that the advantage of rulemaking is

that it's a broad announcement letting interested parties know that the Board is examining the rules and clarified that opening rulemaking isn't necessarily accepting the changes in the petitioner's proposal.

**Motion:** The Board accepts the petition for rulemaking to explore the options to revise relevant sections of chapter 246-760 to permit the use of otoacoustic emission (OAE) screening technology in Washington State school auditory screening standards and procedures under RCW 28A.210.020. The Board directs staff to notify the requestor of its decision and to file a CR-101, Preproposal of Inquiry, to evaluate the request and possible rule change further.

**Motion/Second:** Member Kutz/ Vice Chair Oshiro. Approved unanimously.

Executive Director Davis asked for clarification on the motion and whether it is to permit the technology or explore whether the technology should be included.

Member Kutz clarified that the motion is to explore options.

Member Hayes agreed with the motion and exploring the options. Member Hayes asked Molly to survey Board Members on their questions as staff move forward with this process.

Vice Chair Oshiro asked Molly if the Board was responding to this request appropriately, specifically if the petition came in as an emergency rulemaking request or just a regular petition for rulemaking request.

Molly confirmed that the petition was a regular rulemaking request, and the Board was responding appropriately.

Chair Grellner extended appreciation to the Lions Club for all their work across the state and noted that accepting the petition for rulemaking and gathering more information is a good path forward.

## 12. RULEMAKING PROCESS OVERVIEW

Molly Dinardo, Board staff, stated the goal of the presentation is to give Board Members an overview of the Board's rulemaking process.

Steve Kutz, Board Member, commented that Board Members should have this type of presentation every time a new Member joins the Board.

Michelle Davis, Executive Director, shared that staff are in the process of updating the Board orientation manual to include this rulemaking process overview presentation.

Molly Dinardo, Board staff, presented information on the rulemaking process. See the presentation on file.

Executive Director Davis added that in addition to connecting with interested parties, industry partners, and subject matter experts, the Board also completes a Dear Tribal Leader letter at the CR-101 rulemaking phase, so that Tribes are informed about the state's activities that they may or may not have an interest in. Board staff reach out again at the CR-102 in the event they wish to engage in Tribal consultation. Executive Director Davis emphasized that Tribes are not interested parties, they are Sovereign Nations, and the Board has an obligation to alert them to the Board's work.

Member Kutz stated that what Executive Director Davis is referring to is official engagement with Tribal Governments.

Socia Love-Thurman, Board Member inquired if engagement also involves Urban Indian Health Programs and other Tribal Organizations, or just Tribes.

Member Kutz noted that it's just Tribes.

Executive Director Davis clarified that even though the Dear Tribal Leader Letter doesn't go to Urban Indian Health Centers or clinics, the Board does seek opportunities to engage with them along the process.

Member Kutz added that a lot of issues affect Urban Indian populations, and when they know about it and how it affects them, they start engaging in this work.

Executive Director Davis acknowledged there is more work that the Board needs to do around engagement with Urban Indian Health Programs and other Tribal Organizations.

Member Love-Thurman reminded the group that 76% of American Indian and Alaskan Native people live in urban areas and that the Board should not forget this in their rulemaking work.

Member Kutz commented that the Board almost always works on rules that are already in existence rather than creating a new rule from scratch, and inquired if the Board has ever created new rules.

Keith Grellner, Board Chair, responded that there have been several new rules the Board has created over the years, including the local board of health expansion, and vaping rules.

Member Kutz mentioned that the reason for bringing this question up is that some of these rules have been in place for a long time and evolve over time.

Kate Dean, Board Member, asked for additional information about Technical Advisory Committees and why some rules include these committees, while others do not. Member Dean also inquired if there is an appeal process for rulemaking.

Executive Director Davis responded to the question regarding Technical Advisory Committees and stated that the Board has the authority to stand up ad hoc committees to support its work, although committees aren't used for all rulemaking projects. There are several areas where the Board consistently convenes these committees, which

include the Board's newborn screening and immunization rules. Executive Director Davis shared that the Board has also elected to use advisory committees for the recent notifiable conditions' rulemaking. Executive Director Davis concluded that staff do not always default to using technical advisory committees in the rulemaking process, and it typically depends on how broad the scope of the updates are and other factors.

Member Kutz commented that other than emergency rulemaking, the Board has never rushed through anything.

Lilia Lopez, Assistant Attorney General (AAG), responded to Member Dean's other question, noting that it is possible for rules to be appealed under the Administrative Procedures Act, and this process is usually done in superior court. AAG Lopez also provided specific reasons for which a court can find a rule invalid and added that the Joint Administrative Rules Review Committee (JARRC) can also review rules if they receive a complaint.

Executive Director Davis further explained the role of JARRC and provided examples of their role in reviewing agency rulemaking.

Member Kutz asked if staff wanted to address another item not mentioned in the presentation, which is funding associated with rulemaking implementation.

Executive Director Davis provided an example using the Board's newborn screening rules. Executive Director Davis reminded Board Members that whenever the Board approves a newborn screening technical advisory committee recommendation to add a new condition to the state panel and directs staff to proceed with rulemaking, there needs to be sufficient funding in both the Department of Health and Health Care Authority's budgets to cover costs associated with adding new tests.

Member Kutz added that opening rules could mean new requirements being added to the rule, and because of this, the Board has held off on opening some rules in the past.

Executive Director Davis responded that if the Board directs staff to take on rulemaking, staff need to notify the public about what the scope is and be clear in communications. Executive Director Davis also reiterated that staff are available to the Board for any questions about rulemaking.

Member Dean added that it is helpful to see the Board's rules all in one single document, and that this should also be included in orientation materials.

### **13. BOARD MEMBER COMMENTS AND UPDATES**

Tao Kwan-Gett, Chief Science Officer, Secretary's Designee, shared some Department of Health (Department) and remarked that August is a busy meeting month, with one health conference in Ellensburg. Member Kwan-Gett said the Department held other meetings across the state to talk about human/animal health from a one-health survey. Member Kwan-Gett said that the Department and University of Washington (UW) are hosting a Washington Health Data Innovation Summit on August 17 and 18.

Member Kwan-Gett talked about COVID-19 trends, and noted increases in COVID activity, primary care visits, and slight rises in hospitalizations. Member Kwan-Gett reminded Board Members that there are still more than a dozen deaths due to COVID-19 each week and there are reports of a new COVID-19 booster this fall.

Kate Dean, Board Member, talked about informing the legislature regarding School Environmental Health & Safety Rules. Member Dean said it might not be a year for action, but a year of educating and groundwork. Keith Grellner, Board Chair, commented we may not be ready for anything definitive, but would be great to move forward with the rules. Michelle Davis, Executive Director said staff has received inquiries regarding Environmental Justice (EJ) implications, and have shared rule history, the Board's recommendations in the State Health Report, and the need for school funding for remediation as well as funding for the suspended rule, and assessment of school infrastructure and other needs.

Member Dean commented on the number of legislators leaving their positions, resources marked for EJ, and opportunities to make progress.

Chair Grellner said the next meeting is on Monday, October 9. Chair Grellner said that the Department has called a meeting that day with Local Health Jurisdiction Administrators, Health Officers, and Tribal Health Leaders. Chair Grellner said the Board needs to make sure we have a quorum for our Board meeting. Steve Kutz, Board Member, asked about the Department meeting.

Member Kwan-Gett said the meeting is a requirement by statute to convene the local health officers (LHOs) annually and that a save-the-date was sent to LHOs, and Tribal Officers. Executive Director Davis said the problem is we need a quorum of 6 out of our current 9 Board Members, and if Members participate in the Department's meeting, we won't have a quorum. Executive Director Davis said our goal for co-locating with Washington State Public Health Association (WSPHA) conference is so that folks can attend all the meetings. Member Kutz asked about the ability to move the Board meeting.

Patty Hayes, Board Member, said the Board publishes their meetings a year in advance. Member Hayes doesn't feel the Board should have to reschedule and said there might be an option to put action items in an earlier, consolidated time, so those that attend the Department meeting can leave.

Socia Love-Thurman, Board Member said that October 9 is Indigenous People's Day. Executive Director Davis apologized for not realizing that when scheduling. Member Dean said she needs to attend the October 9 meeting virtually. Member Hayes prefers trying to shift our schedule, perhaps make a shorter meeting with action items early on October 9, that there may be a way to make it happen.

Member Hayes estimated the number of Board Members that could attend; Member Hayes, Vice Chair Oshiro, Chair Grellner, Member Kutz, Member Dean, Member Flores and a Department designee such as Kelly Cooper, then we'd have 7 Board Members.

Member Dean asked for action items to be moved to a certain portion of the day to get done, saying no particular time was necessary.

Member Kwan-Gett apologized for the schedule conflict.

## **ADJOURNMENT**

Keith Grellner, Board Chair, adjourned the meeting at 4:18 p.m.

## **WASHINGTON STATE BOARD OF HEALTH**

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Keith Grellner, Chair

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From: Horseshoe Bill

Sent: 10/4/2023 9:59:01 AM

To:

rmay@cityofblaine.com,khiggins@cityofblaine.com,gbaldwin@cityofblaine.com,rlopez@cityofblaine.com,ms

Alex,Walen, Amy,Street, Chipalo (LEG),Stearns, Chris (LEG),Shavers, Clyde  
(LEG),Stokesbary, Drew,Taylor, Jamila,Valdez, Javier (LEG),Walsh, Jim (LEG),Timmons,  
Joe (LEG),Wilcox, JT,Waters, Kevin (LEG),Springer, Larry,Steele, Mike (LEG),Volz, Mike  
(LEG),Stonier, Monica,Thai, My-Linh,Shewmake, Sharon,Wylie, Sharon,Schmidt, Suzanne  
(LEG),Senn, Tana,Simmons, Tarra,Slatter, Vandana (LEG),Ramel, Alex (LEG),Rule,  
Alicia,Barkis, Andrew,Berg, April (LEG),Connors, April (LEG),Doglio, Beth (LEG),Ramos,  
Bill,Donaghy, Brandy (LEG),Chandler, Bruce,Sandlin, Bryan (LEG),Eslick, Carolyn  
(LEG),Corry, Chris (LEG),Ryu, Cindy,Jacobsen, Cyndy,Bronoske, Dan (LEG),Griffey,  
Dan,Farivar, Darya (LEG),Paul, Dave,Hackney, David,Duerr, Davina (LEG),Lekanoff,  
Debra,Entenman, Debra (LEG),Hansen, Drew,Orcutt, Ed,Alvarado, Emily  
(LEG),Robertson, Eric,Chopp, Frank,Pollet, Gerry,DOR Gina Mosbrucker,Cheney, Greg  
(LEG),Maycumber, Jacquelin,Fey, Jake,Graham, Jenny,Bateman, Jessica  
(LEG),Fitzgibbon, Joe,Schmick, Joe,Kretz, Joel,McEntire, Joel,Reed, Julia (LEG),Cortes,  
Julio (LEG),Goehner, Keith,Chambers, Kelly (LEG),Reeves, Kristine  
(LEG),Davis@leg.wa.gov,Jenkins, Laurie,Christian, Leonard (LEG),Ortiz-Self, Lillian,Callan,  
Lisa (LEG),Berry, Liz (LEG),Riccelli, Marcus,Leavitt, Mari,Klicker, Mark,Dye, Mary,Fosse,  
Mary,Morgan, Melanie,Gregerson, Mia,Caldier, Michelle,Chapman, Mike (LEG),Macri,  
Nicole (LEG),Harris, Paul,Abbarno, Peter,Goodman, Roger,Low, Sam (LEG),Mena,  
Sharlett (LEG),Santos, Sharon Tomiko,Kloba, Shelley (LEG),Hutchins, Spencer  
(LEG),Rude, Skyler,Barnard, Stephanie (LEG),McClintock, Stephanie (LEG),Bergquist,  
Steve,Peterson, Strom,Ormsby, Timm,Orwall, Tina,Dent, Tom,Couture, Travis  
(LEG),Billig, Andy,Rivers, Ann,Cleveland, Annette,Hasegawa, Bob,Hawkins, Brad,Gildon,  
Chris,Rolfes, Christine,Wilson, Claire,Billig, Andy,Rivers, Ann,Cleveland,  
Annette,Hasegawa, Bob,Hawkins, Brad,Gildon, Chris,Rolfes, Christine,Wilson,  
Claire,Kauffman, Claudia (LEG),King, Curtis,Stanford, Derek,MacEwen, Drew,Randall,  
Emily,Pedersen, Jamie,Holy, Jeff,Wilson, Jeff,Salomon, Jesse,McCune, Jim,Nguyen,  
Joe,Braun, John,Lovick, John,Warnick, Judy,Robinson, June,Keiser, Karen,DOR Keith  
Wagoner, Van De Wege, Kevin,Wellman, Lisa,Lovelett, Liz  
(LEG),Itgov@ltgov.wa.gov,Wilson, Lynda,Dhingra, Manka,Mullet, Mark,Schoesler,  
Mark,marko.lilas@leg.wa.gov,Boehnke, Matt (LEG),Padden, Mike,Torres, Nikki  
(LEG),Frame, Noel (LEG),Kuderer, Patty (LEG),Dozier, Perry (LEG),Fortunato, Phil  
(LEG),Saldana, Rebecca (LEG),Muzzall, Ron (LEG),Hunt, Sam,Short, Shelly,Conway,  
Steve,steve.hobbs@sos.wa.gov,twina.nobles@leg.wa.gov,Trudeau, Yasmin (LEG),Chinn,  
Brandy (OFM),DOH WSBOH,director@blaineseniorcenter.org

Cc:

Subject: Freedom Rising In Aurora, Canada (No 15-Minute Cities, No UBI, No CDBC, No Foreign Meddling)

External Email

<https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.bitchute.com%2Fvideo%2F0p>

Sent from my iPhone

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From: Christi Ellefson  
Sent: 10/3/2023 2:20:40 PM  
To: DOH WSBOH  
Cc:  
Subject: Dr. McCullough's Speech at the European Parliament

External Email

[https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Frumble.com%2Fv3hwcgm-dr.-mcculloughs-speech-at-the-european-parliament.html&data=05%7C01%7Cwsboh%40sboh.wa.gov%7C056ad24b97704a55c89408dbc4568deb%](https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Frumble.com%2Fv3hwcgm-dr.-mcculloughs-speech-at-the-european-parliament.html&data=05%7C01%7Cwsboh%40sboh.wa.gov%7C056ad24b97704a55c89408dbc4568deb%7C)

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From: bill leady  
Sent: 8/9/2023 4:48:31 PM  
To: DOH WSBOH  
Cc:  
Subject: My Public Comments

#### External Email

Good Morning, my name is Bill Leady, and I am a resident of Clark County. First, I would like to recognize all the benefits that Washington's Department of Public Health provides. Most residents, myself included, do not spend much time considering the work of the department from ensuring safe drinking water, licensing and inspection health care providers and facilities, setting and monitor wastewater standards, food safety, WIC, and many other very important programs that largely go unnoticed and taken for granted.

However, this morning I would like to talk about the department's budget proposal to spend over \$15M from 2024-2027 to restore trust in public health.

The proposal defines the problem as – I will read part of it verbatim.

"After more than two years spent in the public eye during the COVID19 pandemic response, the belief and trust in public health has deteriorated. This level of public and media interest lends itself to harsh criticisms and as a result, some Washingtonians have lost trust and belief in the value of public health and everything it does to make the lives of Washingtonians better. Public health has been wrapped in a very complex political, regional, and value-based response fraught with immense mis/disinformation which has caused the work of public health to be more difficult. .... Over the last two years in Washington, DOH saw firsthand the impact of these disinformation campaigns .....

If you error in defining the problem, you cannot solve the problem. Unfortunately, the department sees the problem solely as those evil spreaders of misinformation. There is no contrition, no self-reflection, no acknowledgement that public health made many errors and willing "wrapped itself in politics".

The whole initiative seems to be based on - if we can just educate these foolish Washingtonians that we are trustworthy people then all will be fine again.

I don't have time to detail the falsehoods, every changing narrative, changing guidance, coercive mandates, and scare tactics, that Washington's and other public health agencies engaged in during the COVID pandemic. You lost public trust when you deemed people livelihoods and business as "non- essential", then told everyone the vaccines were safe and effective, and belittled anyone who had questions or concerns. People believe their own eyes and their own experiences and when people's personal experiences did not align with what our public health officials were telling us (and mandating) trust was lost.

Trust in public health and trust in government in general is critically important. But a \$15M campaign to convince people they are wrong, and you are trustworthy will not restore it. Maybe some changes within public health are needed.

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From: Christi Ellefson  
Sent: 9/2/2023 11:13:36 PM  
To: DOH WSBOH  
Cc:  
Subject: FLUVID-19: The Documentary by Hibbler Productions

External Email

Hello board members.

Please take the time to watch this Documentary. Especially going into the next "Flu season" you might find it hard to watch but the truth is sometimes hard to swallow when it disrupts our comfortable lifestyle. Please use common sense and Real Science when making decisions that affect our communities. You have big roles that impact the lives of many.

Thank you to those of you who voted against mandating the Covid 19 vaccines for school requirements. By now we hopefully know that was the right move and should have never been mandated to anyone. Doing the right thing is usually not the easiest decision but it's what matters in the end and what you'll be remembered and accountable for.

Happy Labor Day!  
Christi

<https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Frumble.com%2Fv3e5r4w-fluvid-19-the-documentary-by-hibbler-productions-conspiracy-conversations-e.html&data=05%7C01%7Cwsboh%40sboh.wa.gov%7Cad18c9de46ac47ff20bf08dbac44dcdd%7C11d0e21>

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From: bill teachingsmiles.com  
Sent: 8/8/2023 8:34:50 AM  
To: DOH WSBOH  
Cc:  
Subject: Re: Public comment August 9, 2023, Osmunson

External Email

Please use this revised version corrected for the WSBH

Public comment for WSBH August 2023

FLUORIDE IS THE NEW LEAD

Part B Corrected

Summary: IQ loss for the average person in the USA from lead is about 0.5 IQ points and from fluoride in fluoridated communities is about 3 IQ points. Fluoride causes 6 times as much IQ loss as lead for the average person in fluoridated communities.

LEAD:

Lead is a neurotoxic risk for toddlers, a significant amount hand to mouth exposure.

"Based on the study by Lanphear et al. (2005)

<<https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.sciencedirect.com%2Fscience>

the Panel estimated that a blood lead level

<[https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.sciencedirect.com%2Ftopics/genetics-and-molecular-biology%2Fblood-lead-](https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.sciencedirect.com%2Ftopics/genetics-and-molecular-biology%2Fblood-lead-level&data=05%7C01%7Cwsboh%40sboh.wa.gov%7Cefc7121b0ad74680e88b08db9824b561%7C11d0e21)

level&data=05%7C01%7Cwsboh%40sboh.wa.gov%7Cefc7121b0ad74680e88b08db9824b561%7C11d0e21

of 12 µg/dL in children aged 5–10 years old is associated with an IQ loss of 1 point." The latest nation-wide average (NHANES) blood lead level is a US median of 0.6 ug/dL. Thus, the average IQ loss in the USA would be about 0.5 points. See also Lanphear 2005 and Sprong et al (2023). Remember, most everyone is not average.

Fluoride:

Fluoride is a neurotoxic risk for the fetus, infants and toddlers, a significant amount, estimated at a third to two thirds, comes from fluoridated water which is recommended by the Board of Health. Sprung (2023) used the Grandjean 2022 dose-response analysis. Grandjean et al. (2022)

<<https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.sciencedirect.com%2Fscience> recently presented a benchmark modeling for IQ losses associated with fluoride exposures. The BMC (Bench Mark Concentration) for maternal urinary fluoride associated with a 1-point decrease in IQ scores of preschool-aged boys and girls was 0.31 mg/L.

Average maternal urinary fluoride concentration in fluoridated communities is 0.9 mg/L.

In abbreviated terms, Sprong 2023 used a dose-response relationship that reported there is a 1 IQ point loss for every 0.3 mg/L increase in mother's urine fluoride which averages 0.9 mg/L in USA fluoridated communities. Resulting in a 3 IQ point average loss in fluoridated communities, 15 times the harm of lead, thus fluoridation must be considered iatrogenic harm.

The Washington State Board of Health's desire to prevent IQ loss from lead is spot on correct. However, the same effort must be directed to excess fluoride exposure. The Board has no scientific justification to continue promoting fluoridation with a flawed claim of benefit for everyone and absolute silence on warning to those at greatest risk of harm.

□  
BT

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From: bill teachingsmiles.com <bill@teachingsmiles.com>  
Sent: Monday, August 7, 2023 8:53 PM  
To: wsboh@sboh.wa.gov <wsboh@sboh.wa.gov>  
Subject: Re: Public comment August 9, 2023, Osmunson

Public comment for WSBH August 2023

FLUORIDE IS THE NEW LEAD

Part B

Summary: IQ loss for the average person in the USA from lead is about 0.2 IQ points and from fluoride in fluoridated communities is about 3 IQ points. Fluoride causes 15 times as much IQ loss as lead for the average person in fluoridated communities.

LEAD:

Lead is a neurotoxic risk for toddlers, a significant amount hand to mouth exposure.

"Based on the study by Lanphear et al. (2005)

<<https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.sciencedirect.com%2Fscience>

the Panel estimated that a blood lead level

<<https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.sciencedirect.com%2Ftopics/genetics-and-molecular-biology%2Fblood-lead-level&data=05%7C01%7Cwsboh%40sboh.wa.gov%7Cefc7121b0ad74680e88b08db9824b561%7C11d0e21>

of 12 µg/L in children aged 5–10 years old is associated with an IQ loss of 1 point." The

latest nation-wide average (NHANES) blood lead level is below 2 ug/L. Thus, the average IQ loss in the USA would be about 0.2 points. See also Lanphear 2005 and Sprong et al

(2023). Remember, most everyone is not average.

Fluoride:

Fluoride is a neurotoxic risk for the fetus, infants and toddlers, a significant amount, estimated at a third to two thirds, comes from fluoridated water which is recommended by the Board of Health. Sprung (2023) used the Grandjean 2022 dose-response analysis. Grandjean et al. (2022)

<https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.sciencedirect.com%2Fscience> recently presented a benchmark modeling for IQ losses associated with fluoride exposures. The BMC (Bench Mark Concentration) for maternal urinary fluoride associated with a 1-point decrease in IQ scores of preschool-aged boys and girls was 0.31 mg/L. Average maternal urinary fluoride concentration in fluoridated communities is 0.9 mg/L.

In abbreviated terms, Sprong 2023 used a dose-response relationship that reported there is a 1 IQ point loss for every 0.3 mg/L increase in mother's urine fluoride which averages 0.9 mg/L in USA fluoridated communities. Resulting in a 3 IQ point average loss in fluoridated communities, 15 times the harm of lead, thus fluoridation must be considered iatrogenic harm.

The Washington State Board of Health's desire to prevent IQ loss from lead is spot on correct. However, the same effort must be directed to excess fluoride exposure. The Board has no scientific justification to continue promoting fluoridation with a flawed claim of benefit for everyone and absolute silence on warning to those at greatest risk of harm.

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From: bill teachingsmiles.com  
Sent: Thursday, August 3, 2023 8:50 AM  
To: wsboh@sboh.wa.gov <wsboh@sboh.wa.gov>  
Cc: bill teachingsmiles.com <bill@teachingsmiles.com>  
Subject: Public comment August 9, 2023, Osmunson

Please add my name for public comment, August 9, 2023 and forward my comments to the Board Members.

## FLUORIDE IS THE NEW LEAD

The WSBH is correct to review the prevention and reduction of lead exposure and fluoride must be included.

Fluoride exposure reduction is significantly authority (WSBH) controlled.

Prevention requires the WSBH recommending turning off the fluoride pumps.

Comparing fluoride's developmental neurotoxic effects with lead.

Experts: Fluoride's IQ deficits "on par with lead"

Editors from the Journal of the American Medical Association (JAMA) described the IQ drop of -4.5 IQ points in one study [Christakis & Rivera 2019  
<<https://gcc02.safelinks.protection.outlook.com/?url=http%3A%2F%2Ffluoridealert.org%2Farticles%2Fgre>]:

"An effect size which is sizeable – on par with lead."

David Bellinger, author of over 400 epidemiology papers  
<<https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fpubmed.ncbi.nlm.nih.gov%2F%3>  
on neurotoxic chemicals including over 100 on lead, said [NPR 2019  
<<https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.npr.org%2Fsections%2Fhealth%2Fshots%2F2019%2F08%2F19%2F752376080%2Fcan-maternal-fluoride-consumption-during-pregnancy-lower-childrens-intelligence&data=05%7C01%7Cwsboh%40sboh.wa.gov%7Cefc7121b0ad74680e88b08db9824b561%7C1>]:

"It's actually very similar to the effect size that's seen with childhood exposure to lead."

Christine Till, leader of a research team that has published rigorous studies of fluoride neurotoxicity funded by the National Institutes of Health (NIH) says [Canada CTV 2019  
<<https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.ctvnews.ca%2Fhealth%2Fhifluoride-levels-during-pregnancy-may-be-linked-with-lower-iq-scores-in-kids-study-1.4555550&data=05%7C01%7Cwsboh%40sboh.wa.gov%7Cefc7121b0ad74680e88b08db9824b561%7C1>]:

"4.5 points is a dramatic loss of IQ, comparable to what you'd see with lead exposure."

And [Farmus 2021  
<<https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fdoi.org%2F10.1016%2Fj.envres.2>]:

"A 2- to 4-point decrement in PIQ [Performance IQ] may seem like a small difference at the individual level. However, a small shift in the mean of IQ scores at the population level translates to millions of lost IQ points given the ubiquity of fluoride exposure."  
(emphasis added)



Philippe Grandjean, editor-in-chief of the journal Environmental Health  
<<https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fehjournal.biomedcentral.com%2F>  
, and author of over 500 peer-reviewed papers  
<<https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fpubmed.ncbi.nlm.nih.gov%2F%3F>  
on toxicity of fluoride, lead, mercury, perfluorinated compounds (like PFAS), and other  
chemicals says [Grandjean 2013 book & website  
<[https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fbraindrain.dk%2Fabout-  
this-  
site%2F&data=05%7C01%7Cwsboh%40sboh.wa.gov%7Cefc7121b0ad74680e88b08db9824b561%7C11d0](https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fbraindrain.dk%2Fabout-this-site%2F&data=05%7C01%7Cwsboh%40sboh.wa.gov%7Cefc7121b0ad74680e88b08db9824b561%7C11d0)  
]:

"Fluoride seems to fit in with lead, mercury and other poisons that cause chemical brain drain."

## OVERVIEW OF FLUORIDE RISK PREVENTION PROGRAMS

1. Authorities must turn off the fluoride pumps causing excess fluoride ingestion and harm.
2. Do not swallow fluoridated toothpaste or dental products. The reflex of swallowing before spitting is strong.
3. Pregnant mothers and caregivers should use water with less than 0.1 ppm fluoride to make infant formula and for children under the age of 3 to drink.
4. When possible, use non-fluoridated general anesthesia.
5. Avoid fluoride pesticides and fluoride post-harvest fumigants, eat organic foods.
6. Avoid mechanically deboned meat.

The Board's website  
<<https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fsboh.wa.gov%2Fsites%2Fdefault%01%2FSledge%2520-%2520BOH%2520Strategies.pdf&data=05%7C01%7Cwsboh%40sboh.wa.gov%7Cefc7121b0ad74680e88b>  
, states: "Access to community water fluoridation benefits the health of everyone: children, adults, and seniors. Recommendation: Expand and maintain access to community water fluoridation."

The Board statement is false, trusting endorsements and gossip rather than facts or logic, and does not even rise to the level of "fake science." How does fluoridation benefit the teeth of someone who does not have teeth? Other than endorsements, where is the FDA CDER approval? Where are the facts?

Where are the caution of excess fluoride? Where is the caution of the FDA CDER approved label, "Do Not Swallow?"

By cherry picking opinions of like-minded believers, the Board is harming the public. Science demands empirical evidence, not just trust of like-minded believers.

No one can scientifically explain the mechanism of how the fluoride gets from the blood in the tooth pulp chamber through the tooth to the developing caries. It can't. The dentin and enamel are highly resistant to the migration of fluoride. The concentration of fluoride in the saliva is too low to have benefit. Ingested fluoride can't get to the caries in any reasonable concentration.

The WSBH is correct to be concerned with lead.

The NTP (National Toxicology Program) states: "Overall, the NTP concludes that there is sufficient evidence that blood Pb levels < 10 microg/dL and < 5 microg/dL are associated with adverse health effects in children and adults." [1] PubMed

<<https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fpubmed.ncbi.nlm.nih.gov%2F239level%2520Pb%2520was%2520selected%2520for%2520evaluation%2520by%2520the%2Cfor%2520effect>

Likewise, the NTP for fluoride states: "Our meta-analysis confirms results of previous meta-analyses and extends them by including newer, more precise studies with individual-level exposure measures. The data support a consistent inverse association between fluoride exposure and children's IQ." [2]

The five independent peer-reviewers of the NTP report all voted to accept the review's main conclusion and lauded the report. Their comments include: "what you have done is state-of-the-art"; "the analysis itself is excellent, and you thoroughly addressed comments"; "Well done!"; "Findings... were interpreted objectively".

The newly released documents include comments from the NTP's own experts confirming that the report's conclusion that fluoride can lower IQ

<<https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Ffluoridealert.org%2Farticles%2Fsu-government-report-finding-fluoride-can-reduce-childrens-iq-made-public-under-epa-lawsuit%2F&data=05%7C01%7Cwsboh%40sboh.wa.gov%7Cefc7121b0ad74680e88b08db9824b561%7C1> does apply to communities with water fluoridation programs. NTP report says the evidence is not just in those who drink water with higher fluoride concentrations exceeding the World Health Organization (WHO) recommended maximum level of 1.5 mg/L. Furthermore, the WHO guideline was set in 1984 to protect against more severe forms of dental fluorosis and neurotoxicity was never considered. Few neurotoxicity studies even existed in 1984.

In numerous responses to comments by reviewers of the report, the NTP made clear that they had found evidence that exposures of at least some people in areas with fluoridated water at 0.7 mg/L were associated with lower child IQ.

For example, when an unnamed government fluoridation proponent claimed:

"The data do not support the assertion of an effect below 1.5 mg/L...all conclusory statements in this document should be explicit that any findings from the included studies only apply to water fluoride concentrations above 1.5 mg/L."

The NTP responded:

"We do not agree with this comment...our assessment considers fluoride exposures from all sources, not just water...because fluoride is also found in certain foods, dental products, some pharmaceuticals, and other sources... Even in the optimally fluoridated cities...individual exposure levels...suggest widely varying total exposures from water combined with fluoride from other sources."

Additional NTP responses about the review's relevance to water fluoridation programs:

"We have no basis on which to state that our findings are not relevant to some children or pregnant people in the United States."

"Several of the highest quality studies showing lower IQs in children were done in optimally fluoridated (0.7 mg/L) areas...many urinary fluoride measurements exceed those that would be expected from consuming water that contains fluoride at 1.5 mg/L."

The NTP also responded to commenters asking whether their meta-analysis had identified any safe exposure threshold, below which there would be no loss of IQ.

The NTP responded that they found “no obvious threshold” for either total fluoride exposure or water fluoride exposure, referring to a graph in the meta-analysis (NTP’s eFigure 17 reproduced above) showing that as water fluoride concentration increased from 0.0 to 1.5 mg/L there was a steep drop in IQ of about 7 points (expressed as “standardized mean difference” units in the graphs). NTP REPORT

The WSBH cherry picked promoters and protectors of fluoridation rather than evaluating the empirical evidence.

Judgment requires the Board to evaluate both benefit and risk.

The data below is from Iida and Kumar, proponents of fluoridation, graphed by Thiessen PhD (risk management) and will help the Board understand the degree of possible benefit from fluoridation.

See below: Left to right, increasing fluoride exposure.

Red lines are caries experience. It is very hard to detect any benefit to the teeth and the Board’s claim that “everyone” benefits is not supported by the empirical evidence.

The blue lines show harm to the teeth, undisputed harm. With more fluoride exposure more teeth are harmed. More harm than benefit.

Where is the Board’s warning to consumers to avoid excess fluoride, especially for the fetus and infants?

In June, 2023, I presented over 50 reasons to stop fluoridation with scientific references. Most developed countries do not mass medicate their public, fetus, infants, toddlers, youth, adults and seniors without consent with fluoride and yet they have as good or better dental health as the USA.

Whats The Fuss About Fluoride? - YouTube

<<https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.youtube.com%2Fwatch%3F>

The webinar by Professor Christine Till, Ph.D

<[https://gcc02.safelinks.protection.outlook.com/?url=http%3A%2F%2Fem.networkforgood.com%2Fis%2F5242H3ZpYWBNAka-2FwUtgGDitcw-2FREBDL0hqeWPPo73LB41thipo-2Bm6H845kzZkyYBjruDQ-2FQ-3D-3DLREi\\_UvgxF0qNGtJ5m5hAeMK8oSHzCA-2FJJxIJb5kf8jNRnlaN4Pm9WNAi3-2BDX40hv79BK26BRsK3LKFUZ8WIEgpL6VvyjYkI56jTLu6AqSTktKo5-2FnusqTCJKRWDV6jtVFo-2BdTU-2FBvn-2Fpj1nGxNeyUBnrgk0AAltnpt6EI0eu-2BejQ-2FThiAU3sh2IFBX9LFHkhb0rLILNdFIyXLzIQ3as2uoTlrmT9nPRIborjIRfO2O-2FO1jwr64T6wEZTgE4AKI6uPuyL2caKR14zA23sw463lvLJC37oMJD-2FaEDYKeeNOjwmdYvd2UwDYL34012-2FOc1odbf7juXjO5JOK8EHiqWkkjhH0s-2Fs4BOMFVdlskESNGhc7Ec-](https://gcc02.safelinks.protection.outlook.com/?url=http%3A%2F%2Fem.networkforgood.com%2Fis%2F5242H3ZpYWBNAka-2FwUtgGDitcw-2FREBDL0hqeWPPo73LB41thipo-2Bm6H845kzZkyYBjruDQ-2FQ-3D-3DLREi_UvgxF0qNGtJ5m5hAeMK8oSHzCA-2FJJxIJb5kf8jNRnlaN4Pm9WNAi3-2BDX40hv79BK26BRsK3LKFUZ8WIEgpL6VvyjYkI56jTLu6AqSTktKo5-2FnusqTCJKRWDV6jtVFo-2BdTU-2FBvn-2Fpj1nGxNeyUBnrgk0AAltnpt6EI0eu-2BejQ-2FThiAU3sh2IFBX9LFHkhb0rLILNdFIyXLzIQ3as2uoTlrmT9nPRIborjIRfO2O-2FO1jwr64T6wEZTgE4AKI6uPuyL2caKR14zA23sw463lvLJC37oMJD-2FaEDYKeeNOjwmdYvd2UwDYL34012-2FOc1odbf7juXjO5JOK8EHiqWkkjhH0s-2Fs4BOMFVdlskESNGhc7Ec-)

3D&data=05%7C01%7Cwsboh%40sboh.wa.gov%7Cefc7121b0ad74680e88b08db9824b561%7C11d0e217  
., focuses on the current state of research on fluoride neurodevelopmental toxicity,  
including her own landmark studies looking at fetal and infant fluoride exposure. It also  
includes a discussion of potential adverse health outcomes associated with fluoride  
exposure, particularly during early childhood development.

Dr. Till is an award-winning researcher with particular interest in children's environmental  
health and is the principal investigator on a National Institutes of Health (NIH) grant  
focused on testing the effects of fluoride exposure during pregnancy on thyroid function  
and child neurodevelopment. She's an adjunct scientist to the Neurosciences and Mental  
Health Program at SickKids and an associate professor of Psychology at York University.

She is the senior author of several significant fluoride studies, including the JAMA  
Pediatrics fluoride neurotoxicity study (Green 2019  
<[https://gcc02.safelinks.protection.outlook.com/?url=http%3A%2F%2Fem.networkforgood.com%2Fis%2F2F5242H3Zvv-2BvTxVO4BLvOmtuOQSUTIIzcGudCBjDRwNxJsOJBrNQndrIKmcY-2BVoJOsgFVuFdmSW12gUfQTUVtItfD50US4KznSag2uvzr7l5t1gRy3z1fJpTeOrnLxoidZIymaaJsyLqZIYJ9bsPak3DtFjj\\_UvgxF0qNGtJ5m5hAeMK8oSzCA-2FJJxIJJb5kf8jNRnlaN4Pm9WNAi3-2BDX40hv79BK26BRsK3LKFUZ8WIEgpL6VvyYkI56jTLu6AqSTktKo5-2FnusqTCJKRWDV6jtVfo-2BdTu-2FBvn-2Fpj1nGxNeyUBnrgk0AAItntpt6EI0eu-2BejQ-2FTThIQ-2F5nD5vFjIV0ocq4FDIzE5wuyqCdutuijFzq4xPhhWXt6Zc-2B8xC-2BNCGrhIZC3xtgKZKH-2FAKWkiel56bp1XZH8O8rgXfz-2BKoJtPjj6TiHL1bb5EqH3L1V8j6fx-2FQavcxgk-2F1Jvw5ev-2B-2B1xAvzZjgqWG8NGKSDRqTNTerO7-2Bo-2BeAabpZjZ9gWSeOIzTcN-2B0-3D&data=05%7C01%7Cwsboh%40sboh.wa.gov%7Cefc7121b0ad74680e88b08db9824b561%7C11d0e217](https://gcc02.safelinks.protection.outlook.com/?url=http%3A%2F%2Fem.networkforgood.com%2Fis%2F2F5242H3Zvv-2BvTxVO4BLvOmtuOQSUTIIzcGudCBjDRwNxJsOJBrNQndrIKmcY-2BVoJOsgFVuFdmSW12gUfQTUVtItfD50US4KznSag2uvzr7l5t1gRy3z1fJpTeOrnLxoidZIymaaJsyLqZIYJ9bsPak3DtFjj_UvgxF0qNGtJ5m5hAeMK8oSzCA-2FJJxIJJb5kf8jNRnlaN4Pm9WNAi3-2BDX40hv79BK26BRsK3LKFUZ8WIEgpL6VvyYkI56jTLu6AqSTktKo5-2FnusqTCJKRWDV6jtVfo-2BdTu-2FBvn-2Fpj1nGxNeyUBnrgk0AAItntpt6EI0eu-2BejQ-2FTThIQ-2F5nD5vFjIV0ocq4FDIzE5wuyqCdutuijFzq4xPhhWXt6Zc-2B8xC-2BNCGrhIZC3xtgKZKH-2FAKWkiel56bp1XZH8O8rgXfz-2BKoJtPjj6TiHL1bb5EqH3L1V8j6fx-2FQavcxgk-2F1Jvw5ev-2B-2B1xAvzZjgqWG8NGKSDRqTNTerO7-2Bo-2BeAabpZjZ9gWSeOIzTcN-2B0-3D&data=05%7C01%7Cwsboh%40sboh.wa.gov%7Cefc7121b0ad74680e88b08db9824b561%7C11d0e217)  
>), the 2020 study, Fluoride exposure from infant formula and child IQ in a Canadian birth  
cohort

<[https://gcc02.safelinks.protection.outlook.com/?url=http%3A%2F%2Fem.networkforgood.com%2Fis%2F2F5242H3Zvv-2BvTxVO4BLvOmtuOQSUTmMOvtI6tZzoeH2LIffCv-2Fy35t2i1HKqI922hVes-2B0vED-2BDB6lqm3Q8i8A31et9H-2BIJjlmC06rTAz7ZO5zcy87EESc65-2BjjTIWLPUfxc-2F1isNcEIWXETH2G1HcuD-2F-2FCrU-3DIX7h\\_UvgxF0qNGtJ5m5hAeMK8oSzCA-2FJJxIJJb5kf8jNRnlaN4Pm9WNAi3-2BDX40hv79BK26BRsK3LKFUZ8WIEgpL6VvyYkI56jTLu6AqSTktKo5-2FnusqTCJKRWDV6jtVfo-2BdTu-2FBvn-2Fpj1nGxNeyUBnrgk0AAItntpt6EI0eu-2BejQ-2FTi7poyZHIq-2F2Cyy4jgeKDt4V2TGgouDI6e8Ox1PC0-2F7A6zJz-2F5Ek4jVTW66-2BCDxMUMwGcxh0y6dmsxR6A-2BIu-2FbmyY2IM2-2BYK4RR4B1VIVozYoQmiVoVhvPym6-2Bq4933oF7yteuV0Mf1mECezdG4XL9-2BHRFYTvuzijlOf9xjlWq6IkqHnQsOWvxeJLnCs7EfUNI-3D&data=05%7C01%7Cwsboh%40sboh.wa.gov%7Cefc7121b0ad74680e88b08db9824b561%7C11d0e217](https://gcc02.safelinks.protection.outlook.com/?url=http%3A%2F%2Fem.networkforgood.com%2Fis%2F2F5242H3Zvv-2BvTxVO4BLvOmtuOQSUTmMOvtI6tZzoeH2LIffCv-2Fy35t2i1HKqI922hVes-2B0vED-2BDB6lqm3Q8i8A31et9H-2BIJjlmC06rTAz7ZO5zcy87EESc65-2BjjTIWLPUfxc-2F1isNcEIWXETH2G1HcuD-2F-2FCrU-3DIX7h_UvgxF0qNGtJ5m5hAeMK8oSzCA-2FJJxIJJb5kf8jNRnlaN4Pm9WNAi3-2BDX40hv79BK26BRsK3LKFUZ8WIEgpL6VvyYkI56jTLu6AqSTktKo5-2FnusqTCJKRWDV6jtVfo-2BdTu-2FBvn-2Fpj1nGxNeyUBnrgk0AAItntpt6EI0eu-2BejQ-2FTi7poyZHIq-2F2Cyy4jgeKDt4V2TGgouDI6e8Ox1PC0-2F7A6zJz-2F5Ek4jVTW66-2BCDxMUMwGcxh0y6dmsxR6A-2BIu-2FbmyY2IM2-2BYK4RR4B1VIVozYoQmiVoVhvPym6-2Bq4933oF7yteuV0Mf1mECezdG4XL9-2BHRFYTvuzijlOf9xjlWq6IkqHnQsOWvxeJLnCs7EfUNI-3D&data=05%7C01%7Cwsboh%40sboh.wa.gov%7Cefc7121b0ad74680e88b08db9824b561%7C11d0e217)  
>, and the 2018 study, Community Water Fluoridation and Urinary Fluoride Concentrations  
in a National Sample of Pregnant Women in Canada.

<[https://gcc02.safelinks.protection.outlook.com/?url=http%3A%2F%2Fem.networkforgood.com%2Fis%2F2F5242H3Zvv-2BvTxVO4BLvOmtuOQSUTkXUSIDzXmLsAj2IYcIF17ts6-2FLqtFQ3pDndeDKfP2QFDZdFoMKzyiNP0J8ZvYEYzsPwpslRPRj7D-2FLWxL-2BO-2BDkOATohpPIEWY8duxUN5XINRWnZBFs9E-2FlrlrEe1Cs-3D1X9v\\_UvgxF0qNGtJ5m5hAeMK8oSzCA-2FJJxIJJb5kf8jNRnlaN4Pm9WNAi3-2BDX40hv79BK26BRsK3LKFUZ8WIEgpL6VvyYkI56jTLu6AqSTktKo5-2FnusqTCJKRWDV6jtVfo-2BdTu-2FBvn-2Fpj1nGxNeyUBnrgk0AAItntpt6EI0eu-2BejQ-2FTjRrFxCrdjPqZrJVb2vaYUc6UXp3UfsUJ9UMg-2Ff4LKonqO8GsFPqjzmHSw3b-2BzCb19gKEH0xEoe-2F6p8UZVq7fMkKRlIhzaMhgUtt7ANqyfaqyiFtmAGZGDa6aF3dZ7f5pgDL8kYx2TC7RbZK3ivW1vGZIH5dptJp-2BXJ6O-2B7W-2B5kDzh3yA8KLYaXT8clD2CIXA30-3D&data=05%7C01%7Cwsboh%40sboh.wa.gov%7Cefc7121b0ad74680e88b08db9824b561%7C11d0e217](https://gcc02.safelinks.protection.outlook.com/?url=http%3A%2F%2Fem.networkforgood.com%2Fis%2F2F5242H3Zvv-2BvTxVO4BLvOmtuOQSUTkXUSIDzXmLsAj2IYcIF17ts6-2FLqtFQ3pDndeDKfP2QFDZdFoMKzyiNP0J8ZvYEYzsPwpslRPRj7D-2FLWxL-2BO-2BDkOATohpPIEWY8duxUN5XINRWnZBFs9E-2FlrlrEe1Cs-3D1X9v_UvgxF0qNGtJ5m5hAeMK8oSzCA-2FJJxIJJb5kf8jNRnlaN4Pm9WNAi3-2BDX40hv79BK26BRsK3LKFUZ8WIEgpL6VvyYkI56jTLu6AqSTktKo5-2FnusqTCJKRWDV6jtVfo-2BdTu-2FBvn-2Fpj1nGxNeyUBnrgk0AAItntpt6EI0eu-2BejQ-2FTjRrFxCrdjPqZrJVb2vaYUc6UXp3UfsUJ9UMg-2Ff4LKonqO8GsFPqjzmHSw3b-2BzCb19gKEH0xEoe-2F6p8UZVq7fMkKRlIhzaMhgUtt7ANqyfaqyiFtmAGZGDa6aF3dZ7f5pgDL8kYx2TC7RbZK3ivW1vGZIH5dptJp-2BXJ6O-2B7W-2B5kDzh3yA8KLYaXT8clD2CIXA30-3D&data=05%7C01%7Cwsboh%40sboh.wa.gov%7Cefc7121b0ad74680e88b08db9824b561%7C11d0e217)  
>

In June of this year, a prominent fluoride research receiving millions of dollars to study and promote fluoridation published a study [ncbi.nlm.nih.gov/pmc/articles/PMC10348053/](https://pubmed.ncbi.nlm.nih.gov/pmc/articles/PMC10348053/) claiming dental fluorosis is the "only proven downside."

Proof of benefit is much easier than proof of harm. It is unethical to give people an intervention for the purpose of looking for harm.

Two main differences between lead and fluoride.

1.

The Board, authorities, and health care providers do not intentionally dispense and profit from lead.

2. See "A" above.

The Board must stop harming the developing brains of our children.

1. Remove recommending the mass medication of everyone with an unapproved drug.

2. Provide warnings for pregnant mothers and care givers to not use fluoridated water when making infant formula.

Sincerely,

Bill Osmunson DDS MPH

---

[1]National Toxicology Program. NTP monograph on health effects of low-level lead. NTP Monogr. 2012 Jun;(1):xiii, xv-148. PMID: 23964424.

[2][ntp.niehs.nih.gov/sites/default/files/ntp/about\\_ntp/bsc/2023/fluoride/documents\\_provided\\_bsc\\_wg\\_031](https://ntp.niehs.nih.gov/sites/default/files/ntp/about_ntp/bsc/2023/fluoride/documents_provided_bsc_wg_031)

<[https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fntp.niehs.nih.gov%2Fsites%2Fdefault%2Ffiles%2Fntp%2Fabout\\_ntp%2Fbsc%2F2023%2Ffluoride%2Fdocuments\\_provided\\_bsc\\_wg\\_031%2Fntp\\_niehs\\_nih\\_gov\\_sites\\_default\\_files\\_ntp\\_about\\_ntp\\_bsc\\_2023\\_fluoride\\_documents\\_provided\\_bsc\\_wg\\_031.pdf](https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fntp.niehs.nih.gov%2Fsites%2Fdefault%2Ffiles%2Fntp%2Fabout_ntp%2Fbsc%2F2023%2Ffluoride%2Fdocuments_provided_bsc_wg_031%2Fntp_niehs_nih_gov_sites_default_files_ntp_about_ntp_bsc_2023_fluoride_documents_provided_bsc_wg_031.pdf)>  
DRAFT NTP Monograph on the State of the Science Concerning Fluoride Exposure and Neurodevelopmental and Cognitive Health Effects: A Systematic Review NTP Monograph  
08 September 2022

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From: Carol Cohoe  
Sent: 9/25/2023 3:42:19 PM  
To: DOR Jefferson County Leg Authority  
Subject: RE: Jefferson County MPR Concerns



*attachments\0710CE5D3EF04749\_20230925 Errata Replacement 9-6-2\_PRDTOOL\_NAMETOOLONG.pdf*

External Email

Dear Commissioners:

An Errata Replacement letter for the September 6, 2023, letter submitted with the below email is attached. Our apologies, an earlier draft was sent rather than the final letter. Please see the attached.

A hard copy will be sent to the county clerk's attention.

Carol Cohoe

Legal Assistant

Law Offices of J. Richard Aramburu, PLLC

Please "REPLY ALL" to ensure that Mr. Aramburu also receives your response.

From: Carol Cohoe  
Sent: Thursday, September 07, 2023 10:37 AM  
To: jeffbocc@co.jefferson.wa.us  
Cc: Brinnon Group (brinnongroup@gmail.com) <brinnongroup@gmail.com>; aramburulaw@gmail.com; phunsucker@co.jefferson.wa.us; JPeters@co.jefferson.wa.us; romac@pgst.nsn.us; news@peninsuladailynews.com; news@ptleader.com; info@jeffersoncountypublichealth.org; wadepthealth@doh.wa.gov; ODW.Mail@doh.wa.gov; marylyn.dold@doh.wa.gov; Janna.Bardi@doh.wa.gov; WasteWaterMgmt@doh.wa.gov; wsboh@sboh.wa.gov; joenne.mcgerr@ecy.wa.gov  
Subject: Jefferson County MPR Concerns

Dear Jefferson County Commissioners:

Please accept for your review and for the record the attached letter regarding the PHMPR proposal.

Carol Cohoe

Legal Assistant

Law Offices of J. Richard Aramburu, PLLC

Please "REPLY ALL" to ensure that Mr. Aramburu also receives your response.

705 Second Ave Suite 1300

Seattle, WA 98104-1797

Telephone (206) 625-9515 Facsimile (206) 682-1376

This message may be protected by the attorney-client and/or work product privilege. If you received this message in error please notify us and destroy the message. Thank you.

# LAW OFFICES OF J. RICHARD ARAMBURU PLLC

705 Second Avenue, Suite 1300  
Seattle, WA 98104-1797  
Telephone 206.625.9515  
Facsimile 206.682.1376

[www.aramburulaw.com](http://www.aramburulaw.com)  
[www.aramburu-eustis.com](http://www.aramburu-eustis.com)

September 6, 2023 (Errata Replacement)

Jefferson County Board of Commissioners  
1820 Jefferson St.  
PO Box 1220  
Port Townsend, WA 98368

*Delivered Via Email:*  
[jeffbocc@co.jefferson.wa.us](mailto:jeffbocc@co.jefferson.wa.us)

RE: Pleasant Harbor Master Planned Resort

Dear Commissioners:

This office has, for many years, represented the Brinnon Group, a Washington non-profit corporation formed due to concerns with a resort development proposed near Black Point in the Brinnon area by the Statesman Group. This proposal, the Pleasant Harbor Master Planned Resort (PHMPR), includes recreational amenities, including a 205-room hotel, a golf course, a community center, water slide, tennis courts, a hockey rink, basketball court and swimming pool. These features will require a full sewer system and water supply facilities. In addition, Statesman has proposed substantial residential development, including residential subdivisions and condominiums.

As the Commissioners are aware, this proposal has continuously lacked adequate funding; as far back as 2016, the proponent made proposals to Jefferson County asking for public funding for this facility totaling more than \$37M.

Master Planned Resorts (MPR) such as the PHMPR proposal are permitted as a special exception to the limitations against urban style development in the rural area under RCW 35.70A.360, "*with primary focus on destination resort facilities consisting of short-term visitor accommodations associated with a range of developed on-site indoor or outdoor recreational facilities.*" In short, MPRs do not simply authorize another residential housing development, but require the creation of recreational facilities combined with short-term visitor accommodations.

Against this background, in June, 2018, the Commissioner adopted new zoning for the PHMPR proposal and, at the same time, approved a Development Agreement (DA) for the PHMPR in Ordinances No.03-0604-18 and 04-0604-18 respectively. My client



believed that this zoning and DA were inconsistent with both the underlying zoning for the property and the mandatory features of an MPR set forth in RCW 36.70A.360. Accordingly, the Brinnon Group filed suit in Kitsap County Superior Court challenging these ordinances.

Following briefing and argument to the Court, on March 28, 2019, Judge Sally Olsen entered an order reversing the ordinance approving the Development Agreement and remanding it back to the Jefferson County Commissioners. Judge Olsen specifically found that Phase 1 of Statesman's proposed development lacked the provisions necessary to assure that the required recreational elements of the proposal needed to make it a "Master Planned Resort" under the code would stand alone if no further phases were completed. She noted that Phase 1 as proposed failed to include a golf course, spa, sports court, pool, water slides, recreation center, conference center, staff quarters or community space. She specifically found that a community center, as required by the underlying DA, was not included in the development.

Neither Statesman nor Jefferson County appealed Judge Olsen's ruling; instead the Development Agreement was amended consistent with her March 28, 2019 order. Amended Phase 1 includes golf course construction, road construction, Highway 101/Black Point Road intersection improvements and the wastewater treatment plant. Phase 1 plans also now include the community/recreational center with 208 hotel units, pool, water slides, commercial space, sport courts, a maintenance building, and a section with 52 living units for staff quarters. These MPR features must be completed before any of the residential development is permitted.

My client has reviewed the June 5, 2023, commissioners meeting at which the PHMPR was discussed and an agreement between the developer and Jefferson County was approved concerning the payment of County expenses incurred in processing the PHMPR permits. At that meeting, there was discussion of Statesman's possible intention to pursue a "subdivision" proposal in 2024. The nature of this proposal was not disclosed, however, no residential development in this MPR can proceed without the construction of the recreational facilities described above. It is notable that in the 4-½ years since the Superior Court's decision, there has been little or no progress on the required recreational features of the Master Planned Resort. As far as we know, no permit applications have been submitted for the golf course, recreation center, 205-unit hotel, community center, sports courts or other recreational elements required in Phase I. These features must be built out prior to the construction and sale of residential lots, finished homes or condominium units.

Though we expect that Jefferson County will follow its codes as developed after the ruling of Judge Olsen, the Brinnon Group continues to follow the review and permitting of any development to assure that the prior rulings, codes and requirements are fully followed.

September 6, 2023 (Errata Replacement)

Page 3

Thank you for this opportunity to address this important subject.

Sincerely,



J. Richard Aramburu

JRA:cc

cc: Brinnon Group  
Philip C. Hunsucker, Chief Civil Deputy Prosecuting Attorney, phunsucker@co.jefferson.wa.us  
(Out until 9/25; cc berlichman@co.jefferson.wa.us)  
Josh D. Peters, AICP, Community Development Director, jpeters@co.jefferson.wa.us (Brent A.  
Butler is Acting Community Development Director September 5-8, cc'd to  
bbutler@co.jefferson.wa.us )  
Roma Call, Director, Natural Resources Dept., Port Gamble S'Klallam TribCoe,  
romac@pgst.nsn.us  
Peninsula Daily News, news@peninsuladailynews.com  
The Leader, news@ptleader.com  
Jefferson County Health Department, info@jeffersoncountypublichealth.org  
Kevin LoPiccolo, Director, Clallum County Health Department, P.O. Box 1612, Forks WA 98331  
State of Washington Department of Health, wadepthealth@doh.wa.gov, Office of the Secretary of  
Health Umair A. Shah;  
Drinking Water ODW.Mail@doh.wa.gov,  
Healthy Communities (corrected address) Marilyn.Dold@doh.wa.gov.  
Prevention and Community Health Janna.Bardi@doh.wa.gov (Prevention and Community Health  
directory, <https://doh.wa.gov/about-us/contact-us/programs-and-services-contacts>)  
Wastewater WasteWaterMgmt@doh.wa.gov,  
Board of Health wsboh@sboh.wa.gov  
State of Washington Dept. of Ecology, Shorelands and Environmental Assistance Program  
Manager Joenne McGerr, joenne.mcgerr@ecy.wa.gov (Out until 9/21; cc 9/5-9/8/23 to  
brenden.mcfarland@ecy.wa.gov and Amanda Oliveria, Program Manager Assistant,  
amanda.oliveria@ecy.wa.gov.)

---

From: Robert Deitz  
Sent: 8/29/2023 11:49:52 PM  
To: DOH WSBOH  
Cc:  
Subject: Public Comment

External Email

I oppose WAC 246-100 Rulemaking that would expand any authority to involuntarily quarantine individuals. I also oppose adding a C-19 vaccine to the WAC 246-105 schedule of required vaccines for children to attend schools.

Sent from Mail

<[https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fgo.microsoft.com%2Ffwlink%2F%](https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fgo.microsoft.com%2Ffwlink%2F%2F)  
for Windows

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From: Arne Christensen  
Sent: 8/14/2023 2:10:14 PM  
To: DOH WSBOH  
Cc:  
Subject: historical face covering rules in Washington

External Email

Hello:

On July 12, 1923, in the Seattle Post-Intelligencer, there was an item on a vow by the local Ku Klux Klan leader. He was Maj. Luther I. Powell, king kleagle of the Washington state organization of the Ku Klux Klan. Here's the bulk of the item:

"Complete Klan regalia, including that portion of the Klan garb which conceals the face, will be worn by Klansmen at the first annual 'konvention' of the State Klan to be held at People's Park, Renton Junction, Saturday, Powell declared. He defied Sheriff Matt Starwich to interfere with the meeting.

"Starwich earlier in the day announced that he would insist on strict observance of the statute which prohibits concealing of the face by an assemblage of three or more persons, except for purposes of masquerade, fancy ball or other entertainment."

Reading the excerpt, does the health department understand one reason why some people fiercely opposed masking, and mask mandates?

Arne Christensen

---

From: Jim Newcomb  
Sent: 8/28/2023 8:14:09 PM  
To: DOH WSBOH  
Cc:  
Subject: Masks and Health Manadates

External Email

Dear Health Specialists -

Do not require masks for covid trailing viruses. They depersonalize our relationships and have yet to prove any value in preventing disease. The transmission particles need to be much bigger to be apprehended by a 95 mask.

Be wise, follow the science. TKS JIM

---

From: bill teachingsmiles.com  
Sent: 8/9/2023 10:01:43 PM  
To: DOH WSBOH  
Subject: Public coment August 9, 2023

#### External Email

For almost two decades, scientific evidence has been strong that fluoridation is causing more harm than good. A two or three minute public comment is too brief to provide context and empirical evidence.

The public's criticism of the Board and my public health profession regarding our handling of the COVID epidemic is painful to hear and is not without merit. Hind sight is humbling, or at least should be humbling. The epidemic was a "no win" and action was done with limited hard facts. We made mistakes. The Board's silence is a loud concern.

In contrast, fluoridation has been on-going for over 70 years and for the last 20 the evidence of risk, harm and lack of significant benefit has been clear and substantial. If we do not act in the public's best interest, our credibility will further tank. We can repeat the errors of the COVID epidemic and be unresponsive to current empirical evidence, or be proactive and protect the most vulnerable.

Removing the Board's flawed blanket support of fluoridation is essential. Providing simple recommendations based on current research, the National Toxicology Report, would be a prudent first step. I have some suggested wording below.

A few years ago, the Board cherry picked scientists who would confirm policy rather than the Board picking a balanced group of pharmacists, epidemiologists, toxicologists, chemists, biologists, dentists, and physicians to review the primary research. The topic of fluoridation is huge, convoluted, complex with several streams of evidence required for a judgment and took me over 2,000 hours of study before I was willing to speak up with words of caution and many thousands more to more fully understand the serious risks in which authorities are placing the public.

IQ loss for the average person in the USA from lead has been reported at about 0.5 IQ points and from fluoride in fluoridated communities at about 3 IQ points. Not all researchers would use those numbers; however, I have not heard or read any researchers (other than dentists and strong supporters of fluoridation) disagree that concern for fluoride's developmental neurotoxicity is less than lead.

The Washington State Board of Health Website recommends fluoridation for everyone without their individual consent,

regardless of their health status,

regardless of their age,  
regardless of total toxic burden,  
regardless of whether they have teeth,  
regardless of the contamination or purity of the fluoridation product,  
regardless of whether they are getting too much from other sources,  
regardless of the FDA's warning not to swallow and lack of CDER approval,  
regardless that the Washington State Board of Pharmacy's determination that fluoride is a prescription drug,  
regardless of a doctor's prescription for their patient of record,  
regardless that most developed countries do not fluoridate their water or recommend fluoridation,  
regardless of the CDC scientists warning fluoridation borders on a criminal act,  
regardless of the National Toxicology Programs determination of presumed developmental neurotoxicity,  
regardless that the only RCT on fluoride ingestion did not find statistical benefit,  
regardless that there is no mechanism for ingested fluoride to prevent dental caries, and regardless of the 2006 National Research Council's report that fluoride has concerns for harm to the brain, thyroid, bones, teeth, pineal gland, mitochondria, GI tract, cancer, etc.

What empirical scientific factual evidence does the Board of Health have to contradict those concerns, downsides, risks, and evidence of harm for every single person in Washington State and assure everyone that more fluoride is safe? The Board remains silent.

Dentists think "teeth" "benefit" and ignore medical risks. After all, dentists don't diagnose IQ or harm to other parts of the body. The Board must not follow into the trap of a narrow focus on just benefit to teeth.

The Board must immediately remove their blanket support of fluoridation.

The protection of the fetus, infant and toddler is most important.

A caution for pregnant moms to reduce fluoride ingestion.

Do not swallow fluoride toothpaste or drink fluoridated water.

A caution for caregivers to not use fluoridated toothpaste for children until they learn to spit and rinse before swallowing and not use fluoridated water for making infant formula.

Those simple cautions are less than the FDA CDER would recommend but they are a reasonable first step.

There are great scientists who would help the Board at no cost if they know the report will not be shelved.

Sincerely,

Bill Osmunson DDS MPH



---

From: VOICE  
Sent: 8/28/2023 3:42:59 PM  
To: DOH WSBOH  
Cc:  
Subject: Helping our state stay healthy

External Email

Dear BOH-

There are still many in our state who believe masks are helpful and do not know of the many adverse and life threatening side effects in the Covid shots. Can you please help spread the word that a healthy active lifestyle, Vitamin D and a strong immune systems are the best defenses against illnesses. And also help spread the word of the MANY, MANY serious adverse effects with these experimental shots. Thank you!

Also, Biden has announced he is planning more vaccines and more Covid scare tactics to gain more money for pharmaceutical companies. Let's make sure Washington does not fall for any of these Big Pharma money grabs at the expense of our personal health and well being this time around!!!

Thank you!

V

Sent with Proton Mail

<[https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fproton.me%2F&data=05%7C01%](https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fproton.me%2F&data=05%7C01%2F)  
secure email.

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From: Gina Bradley  
Sent: 8/30/2023 2:26:44 PM  
To: DOH WSBOH  
Cc:  
Subject: Vaccines for kids

External Email

I am writing in regards to the upcoming meeting on Nov. 3 about mandating the Covid vaccine to be added to the school scheduled vaccine list. As a parent I am not ready to give my child any more "practice" vaccines. It is not necessary to use the future generation as a testing grounds for another uncertain shot. There used to be a time frame of 6 years before the FDA would allow anything to the public. We have seen what has developed in the recent years with even the healthiest of athletes dying. To not stop this in its tracks would be completely irresponsible and overtly misdirecting the public. I am asking you to use your platform in a positive way for the children of Washington State. Please take a stand against this inhumane attempt at destroying our future and furthering a mass exodus from Washington State.

Thank you,  
Gina Bradley

---

From: Toni Taylor  
Sent: 9/5/2023 12:19:45 PM  
To: DOH WSBOH  
Cc:  
Subject: Public Comment

External Email

Sent from Mail

<[https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fgo.microsoft.com%2Ffwlink%2F%](https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fgo.microsoft.com%2Ffwlink%2F%2F)  
for Windows

I oppose WAC-246-100 that would expand any authority to involuntarily quarantine individuals against their will! That you would even bring this to discussion is appalling, this is America! Not Australia.

I also oppose adding a C-19 vaccine to the WAC 246-105 required list of vaccines for children to attend school. Even though there has been an attempt to censor many doctors worldwide who adamantly oppose shots for children, we are not ignorant as you would suppose.

I recognize that you hold a very influential position for the state of WA, please consider both sides of these issues.

Regards,

Toni Ballard

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From: bill teachingsmiles.com  
Sent: 8/25/2023 9:28:41 AM  
To: DOH WSBOH  
Cc:  
Subject: September 7 Board Meeting, Public Comment



attachments\8C484A38BDDA4F16\_WSBH 9 7 23.docx

External Email

WSBH September 7, 2023

This week the Board of Health will consider GAMT Deficiency testing, of which I support.

"Prevention is better than cure for the patient but not always for the doctor, pharmaceutical industry, health care industry or public health." Testing for safety can take decades.

Estimated incidence of GAMT deficiency is 1:250,000 newborns.

NHANES reported measured prevalence of excess fluoride exposure is over 80,000:125,000. Or about 80,000 times more common than GAMT deficiency.

Does fluoride contribute to GAMT? The evidence is not clear, but the connection between fluoride and metabolic disorders is reasonably consistent. The absence of evidence is not proof of safety. For decades (in some cases before your time) we in dentistry, public health, and industry claimed tobacco smoking was safe, lead, fluoridation, asbestos, mercury, PFAS, PCBs Glyphosate, carbon dioxide levels, all safe . . . based on the lack of research proving harm. With time, decades of time, we are slowly learning about risks and safety. As we learn more, we must use the knowledge to prevent harm rather than profit based on assumed safety or simply go silent.

Of critical importance is for the Board to educate the public with the most basic issues:

1. Remove your promotion of unapproved prescription drugs.

<https://sboh.wa.gov/oral-health-strategies>

<[https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fsboh.wa.gov%2Foral-health-](https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fsboh.wa.gov%2Foral-health-strategies&data=05%7C01%7CWSBOH%40SBOH.WA.GOV%7Cbe75cf4313314b71484808dba588450a%7C)

[strategies&data=05%7C01%7CWSBOH%40SBOH.WA.GOV%7Cbe75cf4313314b71484808dba588450a%7C](https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fsboh.wa.gov%2Foral-health-strategies&data=05%7C01%7CWSBOH%40SBOH.WA.GOV%7Cbe75cf4313314b71484808dba588450a%7C)

2. Do not drink fluoridated water when pregnant or to make infant formula, juices or drink.

3. Do not swallow fluoridated toothpaste. Swallowing is a reflex for children. Teach your child how to rinse and spit before swallowing. Until you observe your child does not swallow toothpaste, do not use fluoridated toothpaste.

I would welcome the Board to consider six most important things you can do to protect your newborn child from fluoride exposure:

1) Breast feed, Breast feed, Breast feed!

Without question, the single most important way to protect a baby from fluoride exposure is to breast feed. Human breast milk almost completely excludes fluoride and thus an exclusively breast-fed baby will receive virtually no fluoride exposure. Breast feeding your child will thus significantly reduce his or her risk of developing dental fluorosis and possibly other effects, including brain damage.

## 2) If Breast feeding Is Not Feasible, Do NOT Use Fluoridated Water

Since breast feeding is not always a feasible option, infant formula must sometimes be used. When this is the case, it is critically important that you do not use fluoridated drinking water to prepare your baby's formula. Fluoridated water, which contains up to 300 times more fluoride than breast milk, is by far the single largest source of fluoride for infants. When formula must be used, therefore, make sure to use a water source that has low levels of fluoride (less than 0.1 ppm). Low-fluoride water can be obtained in one of three ways:

- \* purchasing bottled water

<<https://gcc02.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.fluoridealert.org%2Fcontent%2Fwater%2F&data=05%7C01%7CWSBOH%40SBOH.WA.GOV%7Cbe75cf4313314b71484808dba588450a%7C>  
(most bottled waters have low levels of fluoride);

- \* filtering the water

<<https://gcc02.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.fluoridealert.org%2Fcontent%2Fwith%2F&data=05%7C01%7CWSBOH%40SBOH.WA.GOV%7Cbe75cf4313314b71484808dba588450a%7C>  
with a system that uses reverse osmosis, deionization (with ion exchange resins), or activated alumina technology;

- \* distilling the water with a countertop distiller.

To see the fluoride levels in popular brands of bottled water, click here

<<https://gcc02.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.fluoridealert.org%2Fcontent%2Fbottled%2F&data=05%7C01%7CWSBOH%40SBOH.WA.GOV%7Cbe75cf4313314b71484808dba588450a%7C>  
. For further information on water filtration and distillation, click here

<<https://gcc02.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.fluoridealert.org%2Fcontent%2Ffiltration%2F&data=05%7C01%7CWSBOH%40SBOH.WA.GOV%7Cbe75cf4313314b71484808dba588450a%7C>  
.

## 3) Use Milk-Based Formulas Instead of Soy-Based Formulas

Infant formulas generally contain elevated levels of fluoride, even before the addition of fluoridated water. Some types of formula, however, tend to have higher levels than others. Soy-based formulas, for example, generally have higher levels of fluoride than cow milk-based formulas. To reduce a baby's exposure to fluoride, therefore, it is generally best to use milk-based formulas. For further information on how to select the right formula, see FAN's "Top 5 Ways to Reduce Fluoride Exposure from Infant Formula."

<<https://gcc02.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.fluoridealert.org%2Fcontent%2Ftop5%2F&data=05%7C01%7CWSBOH%40SBOH.WA.GOV%7Cbe75cf4313314b71484808dba588450a%7C>

## 4) Do NOT Use Non-Organic Grape Juice

Due to heavy use of a fluoride pesticide

<<https://gcc02.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.fluoridealert.org%2Fissues%2Fpesticides%2F&data=05%7C01%7CWSBOH%40SBOH.WA.GOV%7Cbe75cf4313314b71484808dba588450a%7C>  
known as "cryolite," U.S.-made grape juices — particularly white grape juice — have consistently high levels of fluoride. According to the USDA, the average level of fluoride in white grape juice exceeds 2 ppm, which is over 600 times more fluoride than a baby receives from breast milk. If you purchase grape juice for your child, therefore, make sure to buy organic varieties, since cryolite is not allowed in organic juice. Also, since many juice drinks use white grape juice as a filler material, it is important to be mindful of the ingredients in the juices you buy: if the label says it has white grape juice, do not purchase the product unless it is organic. For more information on fluoride exposure from pesticides, click here

<<https://gcc02.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.fluoridealert.org%2Fissues%2Fpesticides%2F&data=05%7C01%7CWSBOH%40SBOH.WA.GOV%7Cbe75cf4313314b71484808dba588450a%7C>  
.

## 5) Use More Fresh Food, Less Processed Food (and Avoid Processed Chicken)

When your baby is old enough to eat solid food, it is best to provide as much fresh food (e.g., fresh fruits, vegetables, and meats), and as little pre-made food you can. As a general rule

[https://gcc02.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.fluoridealert.org%2Fcontent%2Ffresh\\_fruits\\_and\\_vegetables](https://gcc02.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.fluoridealert.org%2Fcontent%2Ffresh_fruits_and_vegetables), fresh fruits and vegetables, and to a lesser extent meat, contain very low levels of fluoride. By contrast, pre-made foods are generally higher in fluoride content, particularly in heavily fluoridated countries such as the United States where it is common for food companies to use fluoridated water in the food-making process.

Although fluoride intake from solid food is far less of a significant concern than fluoride intake from beverages (e.g., water, formula, and grape juice), there is one type of processed food that should be consistently avoided. Specifically, you should avoid purchasing pre-made infant foods made with chicken. Most infant foods that are made with chicken (e.g., pureed chicken) contain high levels of fluoride-laden bone particles due to the use of mechanical-deboning processes. As a result, pureed chicken meals [https://gcc02.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.fluoridealert.org%2Fcontent%2Fchicken\\_meals](https://gcc02.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.fluoridealert.org%2Fcontent%2Fchicken_meals) have been found to have an average fluoride content of about 4 ppm, with some products having as much as 8 ppm fluoride. At 8 ppm, two ounces of the chicken would contribute 0.48 mg of fluoride to the baby's daily exposure. This is more than half the benchmark level (0.72 mg/day) that the EPA has established "to protect against severe dental fluorosis in children." To reduce your baby's fluoride exposure from chicken, try to make your own chicken meals instead of purchasing the pre-made varieties. For more information, click here

[https://gcc02.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.fluoridealert.org%2Fcontent%2Fchicken\\_meals](https://gcc02.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.fluoridealert.org%2Fcontent%2Fchicken_meals)

6) If you chose to have your child use fluoridated toothpaste, read the toothpaste label. Be sure you teach them to spit, rinse and spit, rinse and spit again before they swallow. Swallowing is a reflex and candy toothpaste tastes good and is often swallowed.

Children can ingest a dangerous amount of fluoride from toothpaste. Read the FDA (Food and Drug Administration's) required label on the toothpaste tube. The FDA is not overly cautious when warning, "Do Not Swallow."

Sincerely,

Bill Osmunson DDS MPH

WSBH September 7, 2023

This week the Board of Health will consider GAMT Deficiency testing, of which I support.

“Prevention is better than cure for the patient but not always for the doctor, pharmaceutical industry, health care industry or public health.” Testing for safety can take decades.

**Estimated** incidence of GAMT deficiency is 1:250,000 newborns.

NHANES reported **measured** prevalence of excess fluoride exposure is over 80,000:125,000. Or about 80,000 times more common than GAMT deficiency.

Does fluoride contribute to GAMT? The evidence is not clear, but the connection between fluoride and metabolic disorders is reasonably consistent. The absence of evidence is not proof of safety. For decades (in some cases before your time) we in dentistry, public health, and industry claimed tobacco smoking was safe, lead, fluoridation, asbestos, mercury, PFAS, PCBs Glyphosate, carbon dioxide levels, all safe . . . based on the lack of research proving harm. With time, decades of time, we are slowing learning about risks and safety. As we learn more, we must use the knowledge to prevent harm rather than profit based on assumed safety or simply go silent.

Of critical importance is for the Board to educate the public with the most basic issues:

1. Remove your promotion of unapproved prescription drugs. <https://sboh.wa.gov/oral-health-strategies>
2. Do not drink fluoridated water when pregnant or to make infant formula, juices or drink.
3. Do not swallow fluoridated toothpaste. Swallowing is a reflex for children. Teach your child how to rinse and spit before swallowing. Until you observe your child does not swallow toothpaste, do not use fluoridated toothpaste.

I would welcome the Board to consider six most important things you can do to protect your newborn child from fluoride exposure:

## **1) Breast feed, Breast feed, Breast feed!**

Without question, the single most important way to protect a baby from fluoride exposure is to breast feed. Human breast milk almost completely excludes fluoride and thus an exclusively breast-fed baby will receive virtually no fluoride exposure. Breast feeding your child will thus significantly reduce his or her risk of developing dental fluorosis and possibly other effects, including brain damage.

## **2) If Breast feeding Is Not Feasible, Do NOT Use Fluoridated Water**

Since breast feeding is not always a feasible option, infant formula must sometimes be used. When this is the case, it is critically important that you do not use fluoridated drinking water to prepare your baby's formula. Fluoridated water, which contains up to 300 times more fluoride than breast milk, is

by far the single largest source of fluoride for infants. When formula must be used, therefore, make sure to use a water source that has low levels of fluoride (less than 0.1 ppm). Low-fluoride water can be obtained in one of three ways:

- purchasing [bottled water](#) (most bottled waters have low levels of fluoride);
- [filtering the water](#) with a system that uses reverse osmosis, deionization (with ion exchange resins), or activated alumina technology;
- distilling the water with a countertop distiller.

To see the fluoride levels in popular brands of bottled water, [click here](#). For further information on water filtration and distillation, [click here](#).

### **3) Use Milk-Based Formulas Instead of Soy-Based Formulas**

Infant formulas generally contain elevated levels of fluoride, even before the addition of fluoridated water. Some types of formula, however, tend to have higher levels than others. Soy-based formulas, for example, generally have higher levels of fluoride than cow milk-based formulas. To reduce a baby's exposure to fluoride, therefore, it is generally best to use milk-based formulas. For further information on how to select the right formula, see FAN's ["Top 5 Ways to Reduce Fluoride Exposure from Infant Formula."](#)

### **4) Do NOT Use Non-Organic Grape Juice**

Due to heavy use of a fluoride [pesticide](#) known as "cryolite," U.S.-made grape juices — particularly white grape juice — have consistently high levels of fluoride. According to the USDA, the average level of fluoride in white grape juice exceeds 2 ppm, which is over 600 times more fluoride than a baby receives from breast milk. If you purchase grape juice for your child, therefore, make sure to buy organic varieties, since cryolite is not allowed in organic juice. Also, since many juice drinks use white grape juice as a filler material, it is important to be mindful of the ingredients in the juices you buy: if the label says it has white grape juice, do not purchase the product unless it is organic. For more information on fluoride exposure from pesticides, [click here](#).

### **5) Use More Fresh Food, Less Processed Food (and Avoid Processed Chicken)**



When your baby is old enough to eat solid food, it is best to provide as much fresh food (e.g., fresh fruits, vegetables, and meats), and as little pre-made food you can. As a [general rule](#), fresh fruits and vegetables, and to a lesser extent meat, contain very low levels of fluoride. By contrast, pre-made foods are generally higher in fluoride content, particularly in heavily fluoridated countries such as the United States where it is common for food companies to use fluoridated water in the food-making process.

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Children can ingest a dangerous amount of fluoride from toothpaste. Read the FDA (Food and Drug Administration's) required label on the toothpaste tube. The FDA is not overly cautious when warning, "Do Not Swallow."

Sincerely,

Bill Osmunson DDS MPH

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From: Garry Blankenship  
Sent: 9/18/2023 8:56:59 AM  
To: Van De Wege, Kevin, Chapman, Mike (LEG), DOH  
WSBOH, sheriff@co.clallam.wa.us, mozias@co.clallam.wa.us, rjohnson@co.clallam.wa.us, shahidafatin@gmail.com  
Allison 2  
(DOHi), news@peninsuladailynews.com, subscribe@peninsuladailynews.com, feedback@ground.news, oped@ground.news, Herald,  
(DOHi), chutton@heraldnet.com, joy.borkholder@heraldnet.com, customerservice@theolympian.com, news@theolympian.com, City Herald (DOHi), abinion@kitsapsun.com, kimberly.rubenstein@kitsapsun.com  
Cc:  
Subject: Critical Information on Past and Future COVID Drugs

External Email

This speaker is as qualified, ( internist, cardiologist, epidemiologist and prolifically published ), as any available expert on the subject of the "pandemic" and the "vaccines". Information on the negative efficacy of the "vaccines" is voluminous, but this recent presentation is particularly salient.

\* [https://metatron.substack.com/p/three-false-narratives-from-captured?utm\\_source=substack&utm\\_medium=email#media-2f084360-dc31-4a34-a607-ec1a7373b57e](https://metatron.substack.com/p/three-false-narratives-from-captured?utm_source=substack&utm_medium=email#media-2f084360-dc31-4a34-a607-ec1a7373b57e)  
<[https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fmetatron.substack.com%2Fp%2Fthree-false-narratives-from-captured%3Futm\\_source%3Dsubstack%26utm\\_medium%3Demail%23media-2f084360-dc31-4a34-a607-ec1a7373b57e&data=05%7C01%7Cwsboh%40sboh.wa.gov%7C9df8409751fa44f1f4e708dbb85fe140%7C](https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fmetatron.substack.com%2Fp%2Fthree-false-narratives-from-captured%3Futm_source%3Dsubstack%26utm_medium%3Demail%23media-2f084360-dc31-4a34-a607-ec1a7373b57e&data=05%7C01%7Cwsboh%40sboh.wa.gov%7C9df8409751fa44f1f4e708dbb85fe140%7C)>

So this is not dismissed as an anonymous source.

Garry Blankenship  
Sequim, WA

---

From: Arne Christensen  
Sent: 9/15/2023 4:38:32 PM  
To: DOH WSBOH  
Cc:  
Subject: stop recommending the Moderna and Pfizer vaccines

External Email

The health department needs to apologize for trying to force these vaccines on every person in Washington, acknowledge the very substantial doubts about the effectiveness of the latest versions of the vaccines, and stop doing the marketing for Moderna and Pfizer's products at taxpayer expense.

Why can't public health let us make our own decisions?

---

From: Michelle Anderson  
Sent: 9/6/2023 8:29:04 PM  
To: DOH WSBOH  
Cc:  
Subject: Public comments for this YEAR'S meetings.

External Email

I just want to remind everyone that we will NOT be required to have COVID shots as they DONT work!! Many people who have received the shot and ALL the boosters STILL GOT COVID! We will NOT allow our children and grandchildren to be FORCED to take this garbage! Please keep this in mind for ALL the meetings for this year!  
Thank you very much for all you do!  
God bless you and keep you!

---

From: Arne Christensen  
Sent: 8/17/2023 2:47:29 PM  
To: DOH WSBOH  
Cc:  
Subject: covid communication failures

External Email

The DOH needs to apologize for misleading the public about covid, especially about the effectiveness of vaccines and masking. It is because of the deceptions promulgated by public health from 2020 onward that, amid circa 90-degree temperatures in mid-August 2023, people are walking outside, with N95 masks strapped to their faces. Meanwhile other people are dying in the streets from drug overdoses, with not much at all being done by public health to prevent that "epidemic."

---

From: CJ T  
Sent: 8/29/2023 6:12:22 AM  
To: DOH WSBOH  
Cc:  
Subject: Masks optional

External Email

Please do not even try to mandate masks again. They do not work and bring another entire health risk, even worse mental issues plus the outlandish behaviors that we've witnessed in theft in our retail stores. This is a set up for causing more unrest in our nation so keep Washington FREE and let the people make their own decisions regarding this fiasco of an undue burden.

Cris Thompson  
Lynden, WA

Sent from my iPhone

---

From: Melissa Leady  
Sent: 10/4/2023 10:38:20 AM  
To: DOH WSBOH  
Cc:  
Subject: My Public Comments

External Email

Members of the State Board of Health,

This past month, the CDC director suggested two strategies to restore trust in public health: clear communication and transparency. However, Public Health officials use words in ways that are not commonly understood. This is confusing and misleading to the public. It does not improve the trust problem. Clear and transparent communication can only happen when we are speaking the same language. I am writing to provide you examples of Public Health definitions vs common definitions the rest of us use.

#### DICTIONARY OF PUBLIC HEALTH TERMS

##### PREVENTS

Public Health definition: reduces

Common definition: stops

##### COVID

Public Health definition: a collection of symptoms and a positive PCR test

Common definition: the virus, or the symptoms

This common definition, where COVID is synonymous with the virus and the disease(symptoms), was created by public health through use of the term "asymptomatic COVID." This term, implying "asymptomatic symptoms," is an oxymoron. It was confusing, and it created the perception that COVID was the virus. It was introduced in the summer of 2020, to justify mask mandates. Since that time, countless studies have shown that those without symptoms do not have a high viral load and were not contributing to transmission (see MISINFORMATION definition below).

##### PREVENTS COVID

Public Health definition: reduces symptoms

Common definition: keeps one from catching the COVID virus, testing positive, and having symptoms

The public felt misled when the vaccine didn't PREVENT them from getting the COVID virus, including symptoms.

### PREVENTS TRANSMISSION

Public Health definition: reduces the rate of transmission (even slightly) in a large population

Common definition: keeps one from getting or passing on the virus

The public thought the vaccine would PREVENT them from TRANSMITTING the virus to Grandma, and no one in public health dissuaded them from this thinking. In fact, public health officials encouraged it, saying get vaccinated to protect others.

### IMMUNE RESPONSE

Public Health definition: creates a lot of antibodies in the blood

Common definition: the immune system is working to keep one from contracting the virus or having symptoms.

Note: the CDC has acknowledged that an IMMUNE RESPONSE to the mRNA vaccines cannot be considered a correlate of protection. And the public felt misled when they got vaccinated and then got COVID anyway.

### MISINFORMATION

Public Health definition: disagrees with CDC and DOH guidance

Common definition: factually incorrect information

The public health definition – disagreement with government – is dangerous and Orwellian. The CDC has repeatedly changed its advice and gotten things wrong during the pandemic. And many topics deemed MISINFORMATION by public health officials were later shown to be factually accurate. For example, during the April VAC meeting, Washington residents provided factual, accurate, observable and verifiable information, which the DOH chief science and data officer called MISINFORMATION. Also see above COVID definition. There are many others, too numerous to include here.

### FOLLOW THE SCIENCE

Public Health definition: Follow the policy of promoting vaccines

Common definition: uses the scientific process in an unbiased way (observing changes both positive and negative)



During the COVID pandemic, DOH has shared data if it would encourage vaccination. They have withheld data if it would discourage vaccination. If public health officials choose not to reassess their policy in light of negative information, then the policy is not scientific. It is narrative. It is propaganda. But it is not science.

#### TRANSPARENCY

Public Health definition: shares data supporting the policy of COVID vaccination, masking, and other COVID policies.

Common definition: shares all information, whether it support current polices or not.

Admitting the negative, not just pushing the positive, and admitting when you are wrong.

There is more to clear and transparent communication than just saying it's your goal. Clear and transparent communication means you are using words in the same way as the rest of us; and sharing all the information you are collection, positive and negative.

Sincerely,

Melissa Leady  
Clark County Resident

## Burns, Anna M (SBOH)

---

**From:** Cichy, Meghan M (DOH)  
**Sent:** Friday, August 11, 2023 9:43 AM  
**To:** Davis, Michelle (SBOH)  
**Cc:** Sherls-Jones, Jamilya J (DOH); Graff, Katherine M (DOH); Bay, Kathy W (DOH); Febach, Hannah M (DOH); Dinardo, Molly (SBOH)  
**Subject:** Annual School and Childcare Reporting Deadline Change

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

Michelle Davis and Members of the State Board of Health,

I wanted to provide an update on our school and child care reporting plan.

**RCW 28A.210.110** gives the Department of Health the authority to create the annual immunization report forms and timeline for schools and child care centers:

**Immunization program—Administrator's duties upon receipt of proof of immunization or certification of exemption.**

(3) File a written annual report with the department of health on the immunization status of students or children attending the day care center at a time and on forms prescribed by the department of health;

WAC 246-105-060 sets the report due date at November 1st:

**Duties of schools and child care centers.**

(b) Submit an immunization status report under RCW **28A.210.110** in a manner approved by the department. The report must be submitted to the department by November 1 of each year. If a school opens after October 1, the report is due thirty calendar days from the first day of school.

As you may recall, the last couple of years, the Office of Immunization at the Department of Health changed the deadline for school reporting and accordingly, notified the Board of such changes.

Similarly, this year we plan to extend the reporting deadline to December 1<sup>st</sup>. This will allow the Department adequate time to fully develop resources for all schools required to report and allow schools adequate time to gather data needed to complete the report.

If you have questions or concerns, please let us know.

Thank you,

**Meghan Cichy, MPHc, RDN, CD** 

Pronouns: she/her  
Senior Policy Analyst  
Office of the Assistant Secretary  
Division of Prevention and Community Health  
Washington State Department of Health  
[meghan.cichy@doh.wa.gov](mailto:meghan.cichy@doh.wa.gov)  
[www.doh.wa.gov](http://www.doh.wa.gov) | 564-669-3834

Deaf or hard of hearing call 711



*My usual work hours are Monday-Thursday from 7am to 4:30pm and Friday from 7am to 11am. I sometimes work flexible hours, so while it suits me to email now, I don't expect a response or action outside of your working hours.*

# WASHINGTON STATE BOARD OF HEALTH

## HEALTH PROMOTION COMMITTEE SPECIAL MEETING SUMMARY NOTES

**What:** Health Promotion (HP) Committee

**When:** September 7, 2023

**Participating:** Board of Health (Board) Members Dimyana Abdelmalek, Mindy Flores, Patty Hayes, Kelly Oshiro; Board staff Molly Dinardo, Andrew Kamali, Anna Burns, Miranda Calmjoy; Department of Health (Department) staff Caroline Sedano, Deborah (Debs) Gardner, and Sarah Keefe, and invited guest Cynthia (Cindy) Gamble (Tribal Public Health Consultant with the American Indian Health Commission). Other Department staff and members of the public also attended the meeting.

### **Summary Notes:**

#### **Committee Chair Selection**

- Molly Dinardo stated that according to the State Board of Health's (Board) bylaws, each Board policy committee needs a Committee Chair. Molly D. asked if there were any Committee Members interested in serving as the new Chair.
- Member Dimyana Abdelmalek volunteered to serve as the Chair for the remainder of the 2023 Committee meetings and all 2024 meetings.
- Member Kelly Oshiro mentioned that staff should notify the Board of the new Health Promotion Committee Chair at the October meeting.

#### **Maternal and Pregnant Person Mortality in Washington and Ongoing Prevention Efforts**

- Molly D. introduced Department staff Caroline Sedano, Debs Gardner, and Sarah Keefe, and Cindy Gamble from the American Indian Health Commission (AIHC), who provided an informational briefing on the topic of maternal and pregnant person mortality and ongoing prevention work.
- Caroline S. and Debs G. presented an overview of the Department's Maternal Mortality Review Panel (MMRP), shared data and findings from the 2023 report, and report recommendations. In addition, they shared an update regarding the implementation of past report recommendations to date and anticipated upcoming work related to some of these recommendations.
- Next, Cindy G. provided information on the American Indian/Alaska Native Addendum to the 2023 MMRP report, which highlighted the importance of recognizing the need for Tribally Informed Solutions in Washington. Cindy G.

## Health Promotion Committee Special Meeting Summary Notes

gave examples of Tribal-led community engagement work that informed the recommendations in the addendum and emphasized that this work didn't just focus on the topic of maternal and pregnant person mortality; it brought in discussions around the overall health and well-being of the community. Cindy G. concluded by sharing ways in which allies and partners can assist in this work, specifically, by supporting Tribal-led ideas and trusting the wisdom of the community.

- HP Committee Members expressed gratitude for the presentation and noted that the presenters did a great job of condensing a lot of information from the report into the allotted presentation time. Members also mentioned that there are many items of interest from the presentation, and they want to think more about how the Board can pull some of the themes and recommendations from the Department's MMRP report and ongoing work into the Board's legislative statement.
- Additional discussions included the importance of supporting Tribes and Tribal-informed solutions and a recently funded AIHC Foundational Public Health Services (FPHS) proposal related to implementing a Tribal Pregnancy Risk Assessment Monitoring System (PRAMS) system in Washington, interest in creating a universal home visiting program in Washington, and ongoing conversations related to the need for flexible funding to permit relationship building that isn't tied to programs or program outcomes. One Member also inquired about missing or incomplete death certificate data and what local health officers can do to better support the MMRP's work.

### **Rulemaking Updates and Other Project Updates**

- Molly D. shared an overview of active Board rulemaking projects, which included the vital statistics rulemaking delegation to the Department, the delayed newborn screening rulemaking to add Ornithine Transcarbamylase Deficiency (OTCD) to the mandatory state screening panel, and new rulemaking related to school auditory screening standards.
- Molly D. mentioned that the school auditory screening rulemaking still needed a Board sponsor. Member Oshiro volunteered to serve as the sponsor of this work.
- Molly D. also shared that Board staff have started a rulemaking "watchlist," to monitor anticipated rulemaking work that might be coming down the pipeline. One rule staff have identified is the Board's notifiable conditions rule, based on conversations among local health officers and the need to evaluate recent rule implementation. Member Abdelmalek shared that there have been conversations among local health officers (LHOs) regarding the notifiable conditions rule and how important it is to LHO work and looks forward to continuing the conversations related to this topic.
- Finally, Molly D. concluded with updates related to the upcoming Newborn Screening Technical Advisory Committee (TAC) meeting, FPHS Maternal and Child Health (MCH) Framework discussion from the May 2023 committee meeting, and an opportunity to attend a presentation related to kratom.

### **Emerging Topics for Future Board Meetings**

- Molly D. and Andrew Kamali provided an overview of topics committee members should anticipate for the October and November 2023 Board meetings.
- Molly D. shared that in October, Board Members will receive a briefing on the September 8 Newborn Screening Technical Advisory Committee (TAC) recommendations for Guanidinoacetate methyltransferase (GAMT) Deficiency and Arginase 1 Deficiency for discussion and possible action.
- Andrew K. explained that in alignment with the Board's Strategic Plan priorities, staff are planning to convene a series of community panel discussions, starting in November, related to climate change and its impacts on the health of different communities across Washington. Andrew K. asked committee members if they had connections to community groups that might be interested in joining the panel discussions and if they had any additional topics related to climate change that they would like Board staff to explore.
- Committee Members expressed support and interest in this work. Member Patty Hayes expressed interest in being the Board Sponsor on climate change related topics. Member Abdelmalek noted interest in this work from the local health perspective, specifically topics related to air quality, extreme heat events, heat-related illnesses, and the impact of wildfires.
- Member Oshiro asked for clarification regarding the goal of this work, and whether it's to hold discussions about climate change on a broad scale or tailor this work to a specific area or topic. Andrew K. responded that the purpose of this work is to center lived experiences of communities disproportionately impacted by climate change and have these conversations shape future panels or discussions. Member Oshiro suggested the use of a logic model in developing this work. Andrew K. agreed, and shared that staff are creating a crosswalk document to help inform this work and document the various connections to the Board's rules.
- Member Mindy Flores agreed that the panel is a great idea and suggested having multiple smaller panels to discuss specific topics. Member Flores stated a specific interest in working with schools regarding indoor air quality and connecting with students, parents, and teachers, and offered to help Andrew K. with connections to community groups.
- Molly D. shared another priority from the Board's Strategic Plan that may be brought up as early as the November meeting is an educational briefing related to the impact of multi-drug resistant infections in Washington and the state's response capacity.
- Member Abdelmalek stated that they would be interested in supporting this work.

### **Committee Member Comments, Questions, and Next Steps**

- Member Abdelmalek expressed appreciation for the Board staff and thanked them for all their work.
- Member Hayes inquired if there will be someone representing the Board at the Secretary of Health's October meeting since other Board Members will be

Health Promotion Committee  
Special Meeting Summary Notes

representing their jurisdiction and other current working roles. Molly D. noted that staff would follow up on this question.

- Molly D. concluded the meeting by sharing the next steps and noting that the December meeting could be a good time to review the priorities that committee members would like to include in the Board's legislative statement.

To request this document in an alternate format or a different language, please contact the Washington State Board of Health at 360-236-4110 or by email at [wsboh@sboh.wa.gov](mailto:wsboh@sboh.wa.gov). TTY users can dial 711.

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# WASHINGTON STATE BOARD OF HEALTH

## ENVIRONMENTAL HEALTH COMMITTEE SPECIAL MEETING SUMMARY NOTES

**What:** Environmental Health Committee

**When:** September 15, 2023

**Participating:** Board of Health (Board) members Steve Kutz, Kate Dean, and Dimyana Abdelmalek; Board staff Andrew Kamali, Stuart Glasoe, Michelle Larson, and Molly Dinardo; Department of Health (Department) staff Joe Laxson, Jeremy Simmons, Mike Means, Jocelyn Jones, Anne Marie Charles, and Juan Gamez Briceño. Other Department staff and members of the public attended the meeting.

### Summary Notes:

#### Committee Chair Selection

- At the suggestion of staff, Board Members tabled this item to a future Environmental Health Committee meeting.

#### General Updates

- Joe Laxson briefly discussed issues the Department is monitoring or working on during the interim legislative period, including the Department's 2024 decision package, the crab/biotoxin bill (SSHB 1010), and microenterprise home kitchens (SHB 1706). Stuart Glasoe noted that Senator Van De Wege requested a Health Impact Review (HIR) on SSHB 1010.
- Joe Laxson updated members on the agency's efforts to implement the HEAL Act (environmental justice law), including initial work on three pilot Environmental Justice (EJ) Assessments and plans to expand and apply EJ assessments to significant agency actions.
- Stuart Glasoe noted that he and Andrew Kamali plan to attend the annual meeting of environmental health directors in Leavenworth (September 26-28) and give a joint presentation on rulemaking with Department staff.
- Mike Means previewed a statewide forum on per and polyfluoroalkyl substances (PFAS) scheduled for September 19-20 focusing on PFAS impacts associated with drinking water and wastewater.

#### Preview October Board Meeting

- With input from Stuart Glasoe, Jeremy Simmons previewed the upcoming Board briefing on revisions to the On-Site Sewage System rules, chapter 246-272A

(Continued on the next page)



Environmental Health Committee  
Special Meeting Summary Notes

WAC. Jeremy focused on key issues in the rulemaking and fielded numerous questions from Board members. Key discussion topics included local management plans, field verification of proprietary treatment products, property transfer inspections, system repairs, system remediation, and minimum lot size and land area. The anticipated project timeline involves the upcoming Board briefing followed by the CR-102 filing (Proposed Rulemaking), public review and comment, and a public hearing tentatively scheduled for January 2024.

### **Preview November Board Meeting**

- Mike Means explained plans to revise the Group A drinking water rules, chapter 246-290 WAC, to reference updated federal lead and copper rules which will likely involve requesting a rulemaking extension from U.S. Environmental Protection Agency (EPA) and requesting delegated rulemaking authority from the Board. Department staff continue to monitor the issues and best course of action.
- Mike Means said the Department also plans to request delegated rulemaking authority from the Board to do limited revisions to the Group A drinking water rules to align water system planning with ESSHB 1181 which established new requirements for water utilities to address climate resilience in their water system plans.
- Andrew Kamali previewed tentative plans to convene a panel discussion of climate change and impacts on health, noting that it is an outstanding task/topic in the Board's strategic plan.

### **Other EH Rulemaking Updates**

- Andrew Kamali updated Members on rulemaking for water recreation facilities, chapter 246-260 and 262 WAC, including the status of the Technical Advisory Committee (TAC) meetings and ongoing work addressing issues in the recent petition pertaining to disabilities and specific rule language. Andrew reaffirmed plans to update the Board in January on progress related to the petition.
- Jocelyn Jones and Stuart Glasoe discussed the status of work revising the shellfish sanitation rules, chapter 246-282 WAC. This includes work preparing draft rule language for public review and comment, and initial work evaluating the revisions for analysis in the pending Significant Analysis and Small Business Economic Impact Statement (SBEIS).
- Stuart Glasoe briefly explained plans to review the Board's piggeries rule, WAC 246-203-180, which dates back to the 1930s to determine its value and function and whether to retain, revise, or repeal the rule.
- Andrew Kamali and Dr. Abdelmalek introduced and discussed public health concerns and challenges associated with contamination and cleanup of illicit drugs such as fentanyl and methamphetamine, and related issues with the joint rules (Board/Department) on decontamination of illegal drug sites, chapter 246-205 WAC. Anne Marie Charles followed with detailed discussion of key issues

Environmental Health Committee  
Special Meeting Summary Notes

and challenges of the Department's clandestine drug lab program. The rules have been flagged for possible review by staff.

**Committee Member Comments, Questions, and Next Steps**

- Next committee meeting tentatively scheduled for December 2023.

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STATE OF WASHINGTON  
WASHINGTON STATE BOARD OF HEALTH

*PO Box 47990 • Olympia, Washington 98504-7990*

August 14<sup>th</sup>, 2023

Craig Boothe  
President, Sight and Hearing Chairperson  
Lake Chelan Lion's Club  
PO Box 1521  
Chelan, WA 98816

Sent Via Email

Dear Mr. Boothe,

Thank you for the rulemaking petition you submitted to the State Board of Health (Board) on July 26<sup>th</sup>, 2023, requesting to amend chapter 246-760 WAC to include otoacoustic emission (OAE) as a screening technology in the Board's school auditory screening standards.

The Board met on August 9<sup>th</sup>, 2023, and after reviewing and discussing your petition, voted to accept your petition and explore options to revise relevant sections of chapter 246-760 WAC. The Board directed staff to file a CR-101, Preproposal Statement of Inquiry, to initiate rulemaking, further evaluate your request, and assess potential options regarding whether to include OAE screening technology in the Board's rules.

We will soon file the CR-101 and begin work. As noted during the meeting deliberations, Board Members have requested that staff conduct additional research and bring more information to the Board regarding the use of otoacoustic emission as an auditory screening technology for further consideration and scoping of the rulemaking. If you have additional materials that you'd like to send along for staff to review as part of this process, please let Board staff know.

We thank you for your interest and work on this topic. If you require further assistance, please don't hesitate to contact Molly Dinardo, Health Policy Advisor in our office, at 564-669-3455 or at [Molly.Dinardo@sboh.wa.gov](mailto:Molly.Dinardo@sboh.wa.gov).

Sincerely,

Keith Grellner, Chair, State Board of Health

cc: Bill Lundin, Chair, Northwest Lion's Foundation



STATE OF WASHINGTON  
WASHINGTON STATE BOARD OF HEALTH

*PO Box 47990 • Olympia, Washington 98504-7990*

August 16, 2023

Elizabeth M. Stumpf  
310 Olympic Blvd  
Everett, WA, 98203

Sent Via Email

Dear Elizabeth,

Thank you for the rulemaking petition you submitted to the State Board of Health (Board) on June 12, 2023, requesting the amendment of WAC 246-260-031, General design, construction, and equipment for all WRF pool facilities.

In reviewing your petition, the Board reviewed the language from several different codes, including the Americans with Disabilities Act (ADA), State Building Code Council, and the Model Aquatic Health Code and found inconsistencies with WAC 246-260-031. Additionally, during that review, it was determined that the ADA guidelines provide an exception for latch height when entering swimming pool areas, increasing the maximum height to 54 inches.

The Board met on August 9, 2023, and after reviewing and discussing your petition, voted to accept your request to be considered as part of the ongoing rulemaking for water recreation facilities. The Board deemed that more research needs to be done by the technical advisory committee (TAC) to investigate latch height requirements. The Board further requested that the Department direct the TAC to prioritize this section of the rules and brief the Board of its findings by January 2024.

Staff would like to welcome and encourage you to view the TAC meetings. The TAC is scheduled to begin discussion on the construction and design of pool facilities in October. The meetings will be publicly available via the [Water Recreation Rule Updates](#) website.

If you require further assistance, please don't hesitate to contact Andrew Kamali, Health Policy Advisor in our office, at 360-584-6737 or at [Andrew.Kamali@sboh.wa.gov](mailto:Andrew.Kamali@sboh.wa.gov).

Sincerely,

A handwritten signature in black ink, appearing to read 'Keith Grellner', with a long horizontal flourish extending to the right.

Keith Grellner, Chair



## STATE OF WASHINGTON

September 21, 2023

State leaders, healthcare providers, and all other Washingtonians

**SUBJECT: National Opioid Awareness Day**

To our fellow Washingtonians:

Today, on National Opioid Awareness Day, we remember those who have lost their lives to overdose, honor those who have tirelessly worked to prevent and treat overdose and resolve to do all we can to save lives from a public health crisis that kills five to six Washingtonians every day.

Overdose deaths involving opioids and/or stimulants are at unprecedented levels across our state. Opioids and overdose impact all Washingtonians. Communities of color and tribal communities have been especially devastated by this crisis that has touched people of all races, ethnicities, and socioeconomic groups in both rural and urban areas throughout Washington.

The causes of the opioid and overdose crisis are many. The first wave of deaths started in the mid-1990's from prescription opioid medications. The second wave was driven by heroin, ensnaring many who had become addicted to prescription opioids. We are in the third wave of deaths that is largely fueled by fentanyl, a synthetic opioid that comes in many forms. A single counterfeit pill bought on the street can contain enough fentanyl to kill. More and more deaths are also occurring when opioids are mixed with methamphetamine, cocaine, stimulants, and other drugs.

The increased supply of illegal drugs has exploited the underlying structural and systemic roots of the opioid and overdose crisis. These include poverty, lower education rates, and housing insecurity. Lack of access to health care and mental/behavioral health services lead many to self-treat their physical and emotional pain with drugs. Trauma from adverse childhood experiences and intergenerational and historical trauma driven by racism have also been powerful underlying forces that increase rates of substance use disorder, as they do for many other chronic conditions such as heart disease, cancer, and diabetes.

Preventing substance use disorder means we must invest more in addressing these social drivers that influence the health of individuals throughout the life course from the prenatal period extending through early childhood and into adolescence and adulthood.

To respond to the increasing rates of death due to fentanyl in recent years, we must focus on saving lives from opioid overdose by urgently expanding our efforts in the following three areas.

Although we believe there is a need for a quick and rapid response to the opioid crisis, we also agree that we need a long-term plan to ensure success.

Our three priorities for the immediate term are:

1. **Treatment medications:** Medications such as buprenorphine and methadone are our most powerful tools to save lives from opioid use disorder. Most people who use opioids want to reduce their use and start treatment medications. Yet there are major gaps in access to treatment medications. Some of these gaps are due to the lack of capacity or willingness to serve people who actively use drugs in the existing care systems. We need to lower the barriers to treatment, expand the number of health care providers offering treatment medications, and support people in their recovery during treatment. Healthcare providers have an ethical imperative to treat people with opioid use disorder with the same dignity, respect, and quality of care as patients with other medical conditions. That means not only starting or referring to specialty care and counseling for people who use drugs, but also continuing to care for people who keep using drugs, because studies show that continuous treatment leads to better health and faster recovery.
2. **Naloxone:** Naloxone can reverse the symptoms of opioid overdose when given as either a nasal spray or injection. For naloxone to save a life, a person suffering from an opioid overdose must have someone with them who can give naloxone. We need to make sure that everyone who uses substances and the people around them have naloxone, which can be obtained from pharmacies without a prescription through a statewide standing order. We should expand community organizations and harm reduction services throughout the state that engage people at high risk for overdose, give them naloxone, and provide an array of life-saving services.
3. **Awareness:** We need to raise awareness of the risks of opioid use disorder and overdose, give people accurate information, and reduce stigma. Many people, including teens and parents, are not aware of the potentially lethal effects of a counterfeit pill or a white powder containing fentanyl. There is low public awareness that medications for opioid use disorder are by far the most effective treatments, and that naloxone can save lives from opioid overdose. And even though around 50% of Americans know someone with substance use disorder, shame and stigma force individuals and families affected by substance use into the shadows, making it harder for them to get the help they need.

We all must get involved with this work. You don't have to be a health care provider to use one of the most powerful tools we have: social connection. Reach out to people. Ask them, "Are you okay?" And if the answer is, "no," listen with love and understanding, and connect them with help.

On National Opioid Awareness Day, we give our deep gratitude to our fellow Washingtonians in social services, health care, education, and first responders who have been on the front lines of the opioid and overdose crisis. You have saved countless lives while working in extremely difficult circumstances, often thanklessly and without the resources you need. We appreciate all you are doing and have done. For those of you not yet prescribing, we ask that you please do so. You can save a life tomorrow.

September 21, 2023

Page 3

And to all people who are caught in the grip of opioids and other drugs, you are our friends and loved ones who deserve our compassion and our commitment to get you the prevention and treatment services you need to live a healthy life.

Sincerely,



Susan E. Birch, MBA, BSN, RN  
Director  
Health Care Authority



Umair A. Shah, MD, MPH  
Secretary of Health  
Department of Health



Ross Hunter  
Secretary  
Department of Children, Youth, & Families



Gilma Meneses  
Secretary  
Department of Health & Human Services



Cheryl Strange  
Secretary  
Department of Corrections



Caleb J. Banta-Green, PhD MPH MSW  
Research Professor, Addictions, Drug & Alcohol Institute  
School of Medicine, University of Washington



Darcy Jaffe  
Senior Vice President, Safety & Quality  
Washington State Hospital Association





**Chelan-Douglas Health District**

200 Valley Mall Parkway, East Wenatchee, WA 98802

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# Chelan-Douglas Health District Report to State Board of Health

Luke D. Davies and Dr. James Wallace  
Health Administrator and Health Officer

10/9/2023



# Chelan and Douglas County Demographics

- Population of Chelan-Douglas ~ 133,000 residents
  - Chelan County ~81,500
  - Douglas County ~44,500
- Notable Demographics
  - Higher rate of retirees than the state average
  - 30% of the population is Hispanic/Latino
  - Persons in Poverty 10.8%
- Chelan and Douglas Counties attract between 3.5 and 4 million annual visitors
- Agriculture draws over 5,000-10,000 migrant workers to the area annually





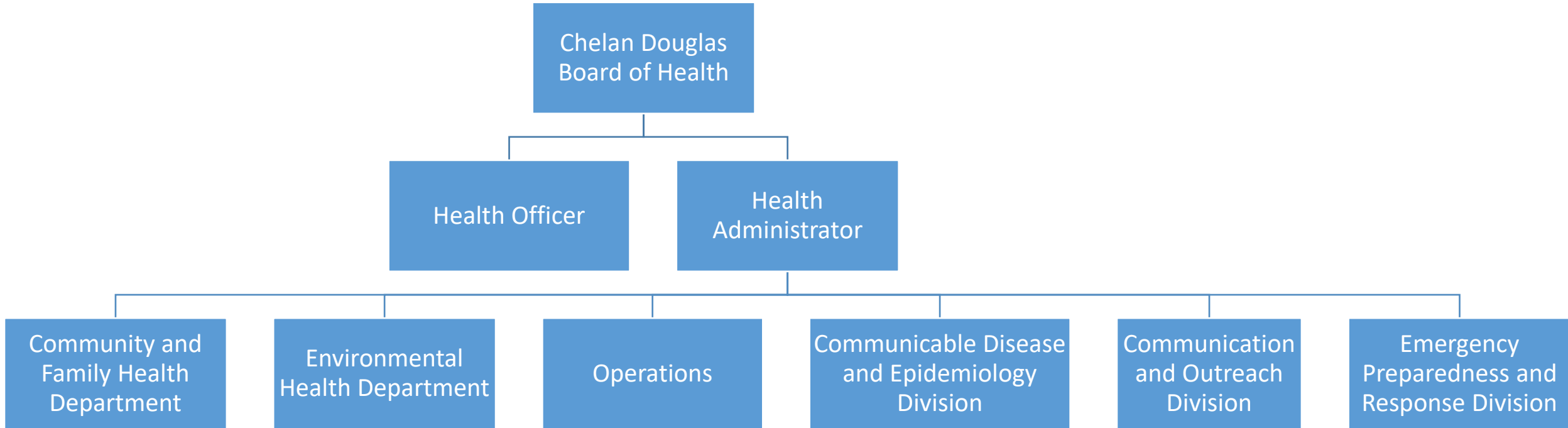
# Chelan-Douglas Health District Overview

- Chelan-Douglas Health District is a Multi-County Special Purpose District covering Chelan and Douglas Counties.
- 2020 Budget: \$3,465,000
- 2020 Employees: 39
- 2023 Budget: \$6,558,000
- 2023 Employees: 56
- Mission: To protect and improve the health of individuals and communities in Chelan and Douglas Counties through the promotion of health and the prevention of disease and injury





# Chelan-Douglas Departments and Divisions





# Chelan-Douglas Health District Current Structure

- Departments
  - Community and Family Health
  - Environmental Health
- Cross Cutting Divisions
  - Communicable Disease and Epidemiology
  - Communications and outreach
  - Emergency Planning and Response





# Community and Family Health Department (CFH)

- Community and Family Health Programs and Services
  - Access to Baby and Child Dentistry (ABCD)
  - Children and youth with Special Health Care Needs (CYSHCN)
  - Child Care Consultation
  - Health Education
  - Nurse- Family Partnership<sup>®</sup> (NFP)
  - Women, Infants, and Children (WIC)
  - Public Health Nutrition



# CFH - Access to Baby and Child Dentistry (ABCD)

**Access to Baby and Child Dentistry (ABCD)** is a system of care in Washington state that connects Apple Health (Medicaid) insured children with specially-trained dentists in their communities.

Program Funding Source- Health Care Authority

## Program Eligibility:

- Children 5 years old or younger
- Children under 13 with a disability and a DDA indicator
- Enrolled in Apple Health (Medicaid)
- Live in Washington State



**CDHD currently has 196 children enrolled in the program- highest enrollment since 2013**  
**We serve Chelan, Douglas, and Okanogan Counties.**



# CFH - Children and Youth with Special Needs (CYSHCN)

**Children and Youth with Special Health Care Needs (CYSHCN) Program** promotes culturally competent, integrated systems of care for CYSHCN and their families.

Program Funding Source- Federal Grant (MCHBG) through our consolidated contract with DOH

- This a *FREE and voluntary* program for families with a child under 18 years of age with or at-risk of a chronic medical condition or special health care need who require health and related services of a type and amount beyond what is generally required.

**CDHD is currently serving 24 clients.**





# CFH - Children and Youth with Special Needs (CYSHCN)

## Common Diagnosis Include:

- Diabetes
- Autism spectrum disorders
- Down Syndrome
- Muscular Dystrophy
- Congenital heart disease/heart defects
- Developmental delays
- Elevated blood lead
- Depression/Anxiety
- ADD/ADHD





# CFH - Child Care Consultation

**Child Care Consultation** provides nurse consultation for licensed child care centers serving infants.

CDHD contracts with 2 childcare centers and bills them for services provided

## **Child Care Consult Nurse provides the following:**

- Assistance with program planning and policy review
- Provides training and consultation for staff and parents
- Conducts formal assessments as requested (i.e. developmental screenings, lead screenings)
- Assists in developing program objectives for health and wellness
- Provides referrals as needed for children and families who require additional resources



# CFH - Health Education

**Health Education** Develops and implements public information and other health education activities for CDHD's public health programs

Program Funding Source- FPHS funding

## **Health Education activities:**

- Collaborates with CDHD Personal Health staff to identify, develop and provide health education to providers, clients, media and the community.

## **Recent Projects:**

- Diabetes Support Group for monolingual Spanish clients
- Partnering with Wenatchee School District after school program to offer health education classes for parents of children participating in the program
- Outreach to Senior Center about offering health education services to local seniors
- Cooking classes titled "Cooking with a Food Box" at the YWCA for women who are living in the YWCA supported housing



# CFH - Nurse Family Partnership<sup>®</sup> (NFP)

**Nurse-Family Partnership<sup>®</sup> (NFP)** is an evidence-based, community health program with over 40 years of evidence showing significant improvements in the health and lives of first-time moms and their children.

Program Funding Source- Contract with DCYF (general state funds) & agency discretionary funds

## Program Eligibility:

- First time *pregnant* mom
- Less than 28 weeks pregnant
- Medicaid or WIC eligible

**Currently Have 64 Mothers enrolled with a waiting list**





# CFH - Nurse Family Partnership<sup>®</sup> (NFP)

## Chelan-Douglas NFP Moms

Median Age 22; 80% unmarried; 89% on Medicaid

Annual Household income \$9,928

## NFP Chelan Douglas outcomes

- 94.3% Babies born at a healthy weight
- 94.4% Babies born full term
- 91.4% Mothers initiated breastfeeding
- 100% Babies received all immunizations by 12 months
- 62% of clients employed postpartum



Source: \*Aggregate data provided by NSO (Quarter 2 data from 07/01/22-06/30/23)



# CFH - Women, Infants, Children Nutrition Program (WIC)

**WIC** aims to safeguard the health of low-income women, infants, and children by providing nutritious foods to supplement diets, information on healthy eating, and referrals to health care.

- Program Funding Source- Federal Grant through consolidated contract with WA DOH
- **Program Eligibility:**
  - Live in Washington State, and
  - Are pregnant, a new mother, or a child under five years of age, and
  - Have a medical or nutritional need, and
  - Meet the [income eligibility guidelines](#)
- **We have increased our authorized caseload from 585 in 2022 to 645 in 2023.**
- **We serve clients in offices located in East Wenatchee and Leavenworth.**



# CFH - Women, Infants, Children Nutrition Program (WIC)

## WIC Services Include:

- Health screenings (hemoglobin and **lead screenings**)
- Nutrition and health education
- Breastfeeding support (education and breast pumps)
- Help getting other services (ABCD, CYSHCN, NFP etc.)
- Monthly WIC benefits to purchase food
- Farmers Market Nutrition Program- During summer months, eligible WIC clients (pregnant women, postpartum women, children over 1 year) can receive checks for the purchase of up to \$28.00 (maximum of \$84.00 per family if there are at least 3 people on WIC) of farmer market fruits and vegetables at authorized Farmers Markets.





# Environmental Health Department (EH)

---

- Environmental Health Programs
  - Food Safety Program
  - Water Recreation Program
  - School Program
  - Onsite, Land Use & Drinking Water Programs
  - Solid and Hazardous Waste Program





# EH– Food Safety Program

## Food Safety Permits and inspects 825 food establishments annually

- CDHD conducts 2 inspections annually with high risk establishments and once a year for low risk
  - Examples of high risk FEs are: full service restaurants, fast food restaurants, multi department grocery stores and school kitchens
  - Examples of low risk FEs are: espresso stands, small grocery stores and markets with one or two departments and bed & breakfasts
- CDHD also conducts 450 temporary food inspections annually

Food Establishment Permit Type	Quantity (2022)
High Risk (F1&F2)	549
Low Risk (F3&F4)	256
Temporary Food	450
Donated Food Distribution Organization	20



# EH– Water Recreation Program

CDHD permits and inspects 210 public water recreation facilities annually

- Public swimming pools and spas
- Hotel/motel swimming pools and spas
- Apartment/Condo/HOA swimming pools and spas
- Wading pools
- Water parks
- Splash pads





# EH– School Program

Revitalized our School program to provide support to 50 public and private schools

- Routine Inspections focus on:
  - Food inspections
  - Maintenance and building safety
  - Adequate supply and properly stocked hand sinks
  - Ventilation
  - Temperature control
  - Sound control
  - Lighting
  - General safety





# EH– Onsite Sewage System, Land Use, & Drinking Water Programs

This program regulates Onsite Septic, Land Use, and Drinking water for both counties

- CDHD issues approximately 400 Septic permits annually
  - CDHD manages 130 service providers that include installers, pumpers, operations, and maintenance service providers
  - Review ~215 land use applications annually
  - Review ~200 private and public water applications annually
- 
- We also have approximately 456 Group B water systems
  - We conduct approximately 20 sanitary survey's annually for Group A systems on behalf of Washington DOH





# EH– Solid and Hazardous Waste Program

CDHD conducts application reviews in conjunction with Washington State Department of Ecology for all new and expanding solid waste facilities.

CDHD has 19 permitted Solid Waste Facilities

- Municipal waste landfill
- Demolition & Inert waste landfills
- Recycling center
- Closed landfills
- Compost facilities
- Transfer stations
- Moderate risk waste facility





# EH– Solid and Hazardous Waste Program

CDHD also responds to approximately 75 solid waste complaints annually

CDHD has started a hazardous waste program that is focused on educating small business on hazardous chemical waste disposal

Includes:

- Hotels
- Dry Cleaners
- Auto body repair shops
- Orchards





# Communicable Disease and Epidemiology

This new division has been created to combine our communicable disease programs with epidemiology to improve surveillance and assessment

## Activities Include:

- Immunizations
- Notifiable Conditions Disease Surveillance
- TB surveillance and DOTS
- Outbreak Investigations
- Community Health Assessment
- Hospital Acquired Infections





# Communicable Disease and Epidemiology

North Central Washington Epidemiological Consortium covers Region 7 with support from the University of Washington and Village Reach

## Activities Include:

- Regional Mental Health Assessment
- Regional Community Health Assessment Systematic Review for 2023
- Regional Dashboards for Public health Indicators
- Outbreak Investigations
- Workforce Development Activities







# Communications and Outreach

CDHD has grown its Communications and Outreach from 1.5 employees and a working budget of \$5,000 annually to a team of 5 people with an annual communications budget of \$50,000

CDHD has expanded traditional media coverage on:

- Radio
- Billboards
- Newspaper
- Television
- Direct Mail

Increased Health Campaigns





# Communications and Outreach

CDHD has expanded Digital Media presence as well @ChelanDouglasHD



## 5,064 Followers

- 81% female
- 19% male
- 1,568 in Wenatchee
- 718 in East Wenatchee
- 241 in Chelan
- 216 in Leavenworth



## 503 Followers

- 78% female
- 22% male
- 42% in Wenatchee
- 17% in East Wenatchee
- 5% in Leavenworth
- 4% in Malaga



## 669 Followers

- 41 Tweets
- 4,783 Tweet impressions
- 275 Profile visits



## 85 Subscribers

- 66% female
- 34% males
- 70 videos (Eng. & Spn.)
- 24,147 views



# Communications and Outreach

CDHD's Outreach team participates in over 100 events annually





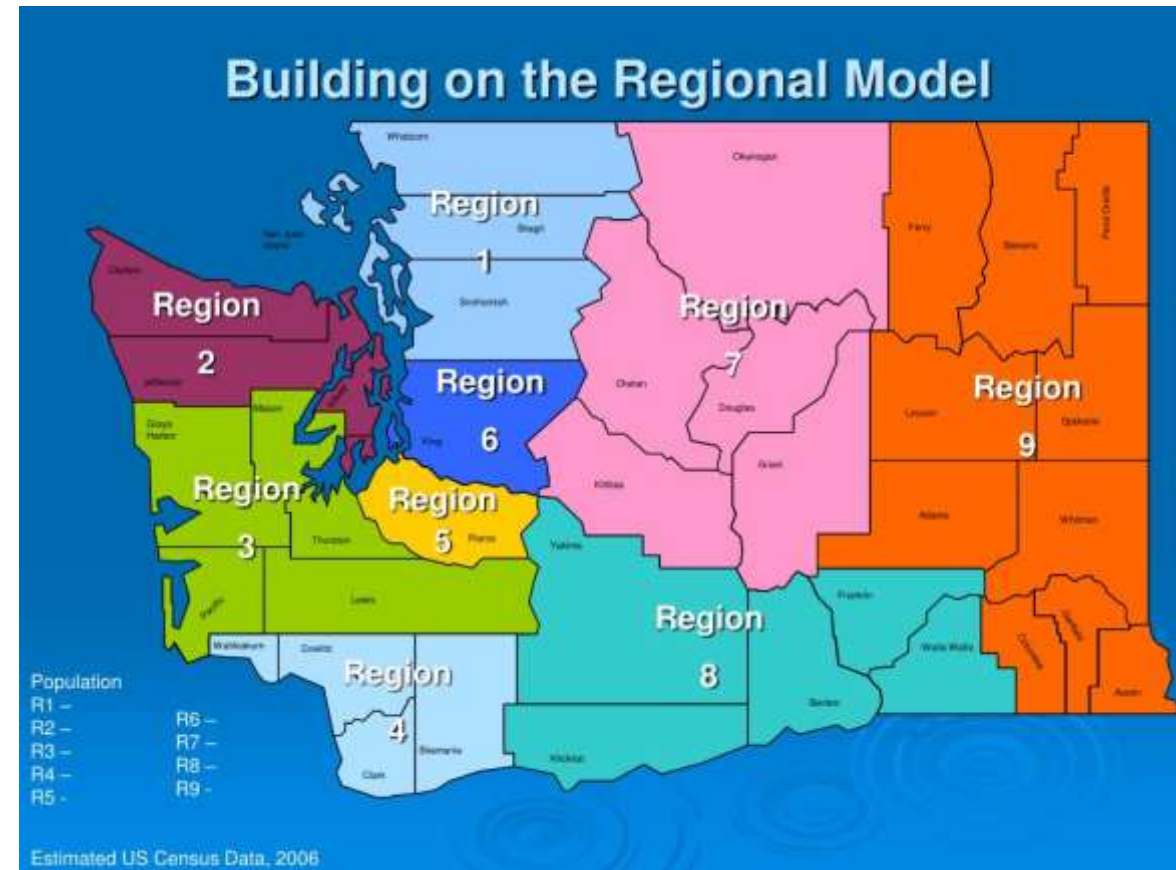
# Emergency Planning and Response

CDHD is the Public Health Emergency and Response lead for Chelan, Douglas, Grant, Okanogan, and Kittitas Counties

We are expanding local capacity:

- Regional Emergency Coordinator
- Local Emergency Coordinator
- Public Information Officer

Region 7 Health Care Alliance





# Emergency Planning and Response

Public Health Emergency Response in North Central Washington includes:

- COVID-19 Response
- Wildfire Smoke Response
- Extreme Weather Event Coordination
- Disease Outbreak Response





# Emergency Planning and Response

Finalized COVID-19 After Action Report to be published December 1<sup>st</sup> 2023

Post COVID-19 Activities to include:

- Multi-Agency ICS Training
- Establish a Medical Reserve Corps for Chelan and Douglas Counties
- Incorporate lessons learned from COVID-19 into future plans





# On Behalf of CDHD Thank You!



# WASHINGTON STATE BOARD OF HEALTH

**Date:** October 9, 2023

**To:** Washington State Board of Health Members

**From:** Kelly Oshiro, Board Vice Chair

**Subject:** Briefing – Recommendations of the GAMT and ARG1-D Newborn Screening Technical Advisory Committee

## Background and Summary:

The Washington State Board of Health (Board) has the authority under RCW 70.83.050 to define and adopt rules for screening Washington-born infants for hereditary conditions. WAC 246-650-010 defines the conditions, and WAC 246-650-020 lists the conditions for which all Washington-born newborns are to be screened. To determine which conditions to include in the newborn screening panel, the Board convenes a multi-disciplinary technical advisory committee (TAC) to evaluate candidate conditions using guiding principles and an established set of criteria.

Earlier this year, the Board received petition requests to review Guanidinoacetate methyltransferase (GAMT) Deficiency and Arginase 1 Deficiency (ARG1-D) for possible inclusion in the state's newborn screening panel. After a preliminary review of these conditions at the Board's March and April 2023 meetings, Board Members directed Board staff to work with the Department of Health (Department) to convene a TAC for further evaluation.

GAMT Deficiency is a rare inherited metabolic condition that prevents the body from properly producing creatine.<sup>1</sup> Without enough creatine, organs like the brain and muscles cannot get enough energy, leading to neurological issues.<sup>1,2</sup> Children with this condition may begin showing symptoms from 3 months to age 3. Without early treatment, GAMT Deficiency can cause serious cognitive impairments and result in developmental delays, impaired speech and mobility, uncontrolled movements, muscle weakness, and seizures. However, when treatment is initiated early, existing literature shows that GAMT appears to be highly treatable.<sup>3</sup> Currently, the states of Michigan, New York, and Utah, as well as British Columbia, Ontario, and Victoria, Australia, screen for GAMT Deficiency. Approximately 130 individuals have been diagnosed with the condition worldwide.

ARG1-D is a rare inherited metabolic condition that causes the amino acid arginine (a building block of proteins) and ammonia to accumulate in the blood.<sup>4,5</sup> When ammonia levels become too high, it has toxic effects and can cause serious damage to the nervous system and other parts of the body. Signs of the condition can occur from

(continued on the next page)



about age 1 to 3, and symptoms include seizures, muscle tightness or stiffness, difficulty eating, vomiting, and trouble breathing.<sup>6</sup> Existing literature shows that individuals diagnosed later in life have an increased risk of disability and death, but early identification can allow babies to begin treatment early and lower arginine levels. While ARG1-D is only partially treatable, even a partial reduction in arginine has meaningful impacts on disease outcomes. Over 30 states currently screen for ARG1-D, and less than 260 individuals have been diagnosed with the condition worldwide.

The TAC Met on [September 8th, 2023](#), to consider both conditions against the Board's five newborn screening criteria. During the committee meeting, TAC Members heard presentations on the natural history of the conditions, diagnostic testing and treatment, available screening technology, and cost-benefit analyses for adding these conditions to the state's screening panel. The TAC then voted on individual criteria for each condition as well as overall recommendations to the Board.

I have invited John Thompson, Director of the Department of Health's Newborn Screening Program, and Molly Dinardo, Policy Advisor to the Board, to present information from the GAMT and ARG1-D TAC meeting. First, they will present information and TAC recommendations for GAMT Deficiency, followed by ARG1-D, for Board Member consideration.

#### [Recommended Board Actions:](#)

The Board may wish to consider one of the following motions for each condition:

#### GAMT Deficiency

The Board directs staff to file a CR-101 to initiate rulemaking for chapter 246-650 WAC to consider adding Guanidinoacetate methyltransferase (GAMT) Deficiency to the Washington State newborn screening panel.

OR

The Board determines that Guanidinoacetate methyltransferase (GAMT) should not be considered for addition to the newborn screening panel at this time and, further, that GAMT be reevaluated in two years as a candidate for mandatory newborn screening in Washington State.

#### ARG1-D

The Board directs staff to file a CR-101 to initiate rulemaking for chapter 246-650 WAC to consider adding Arginase 1 Deficiency (ARG1-D) to the Washington State newborn screening panel.

OR

The Board determines that Arginase 1 Deficiency (ARG1-D) should not be considered for addition to the newborn screening panel at this time and, further, that ARG1-D be

Washington State Board of Health  
October 9, 2023, Meeting Memo

reevaluated in two years as a candidate for mandatory newborn screening in Washington State.

Staff

Molly Dinardo

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# Washington State Board of Health

Newborn Screening Technical Advisory Committee (TAC)  
Recommendations on Guanidinoacetate Methyltransferase  
(GAMT) Deficiency and Arginase 1 Deficiency (ARG1-D)

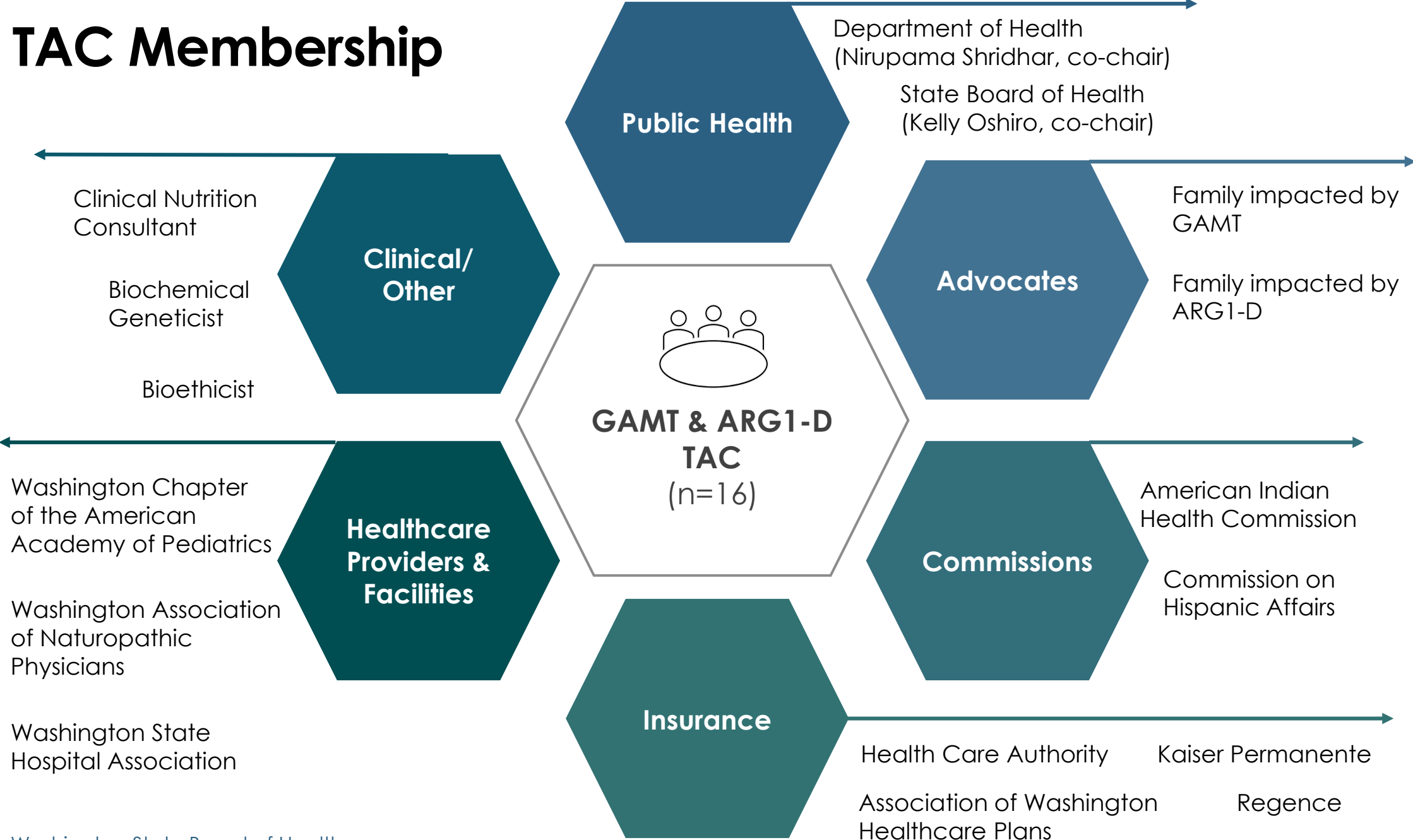
October 9, 2023

# Technical Advisory Committee (TAC) Background

- The TAC met on September 8, 2023, to determine whether GAMT Deficiency and ARG1-D met the Washington State Board of Health's criteria for newborn screening conditions.
- Committee heard presentations from families impacted by the conditions, Board staff, Department staff, and subject matter experts to inform discussion and evaluation of the conditions.
- Reviewed GAMT Deficiency first, then repeated the process for ARG1-D.



# TAC Membership

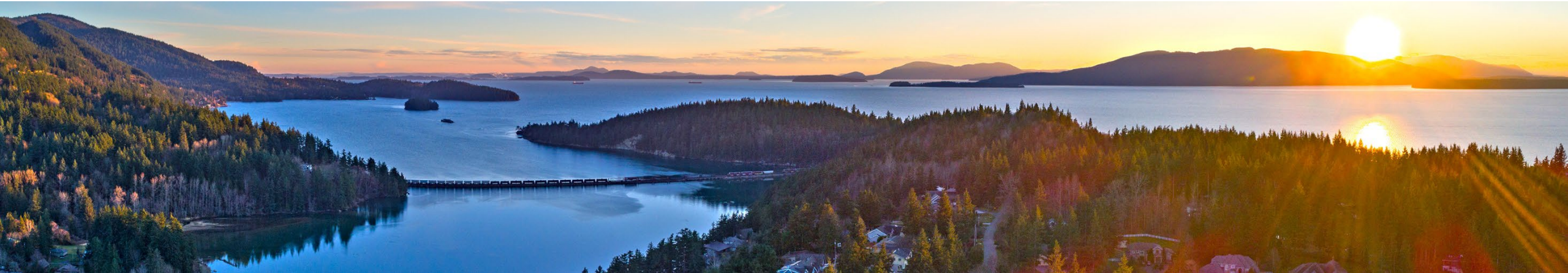


# Guiding Principles & Newborn Screening Criteria



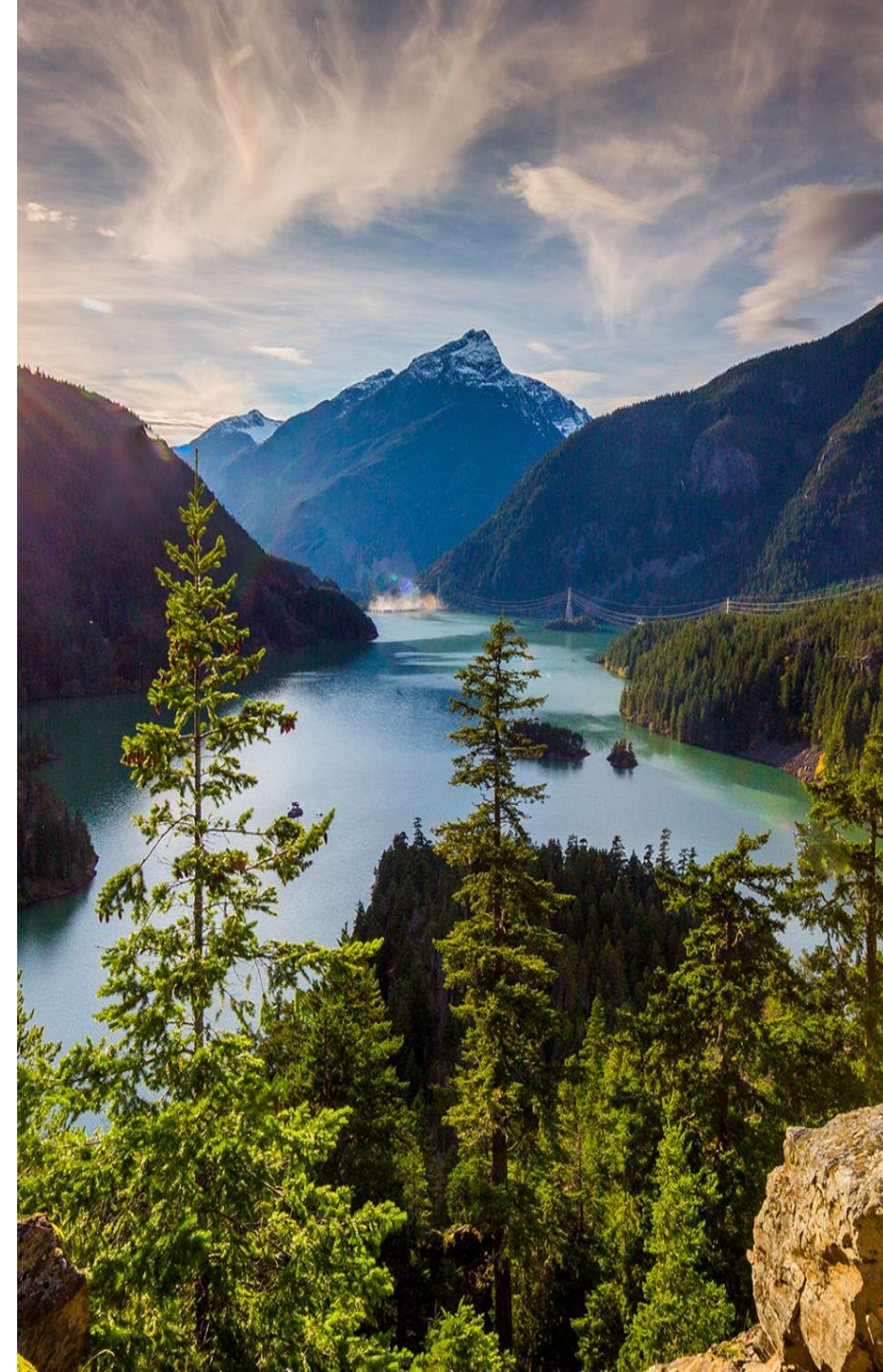
- 1 Available Screening Technology
- 2 Diagnostic Testing and Treatment Available
- 3 Prevention Potential and Medical Rationale
- 4 Public Health Rationale
- 5 Cost-Benefit / Cost-Effectiveness

# **GAMT Deficiency Background, Committee Voting, & Recommendation**



# Background – GAMT Deficiency

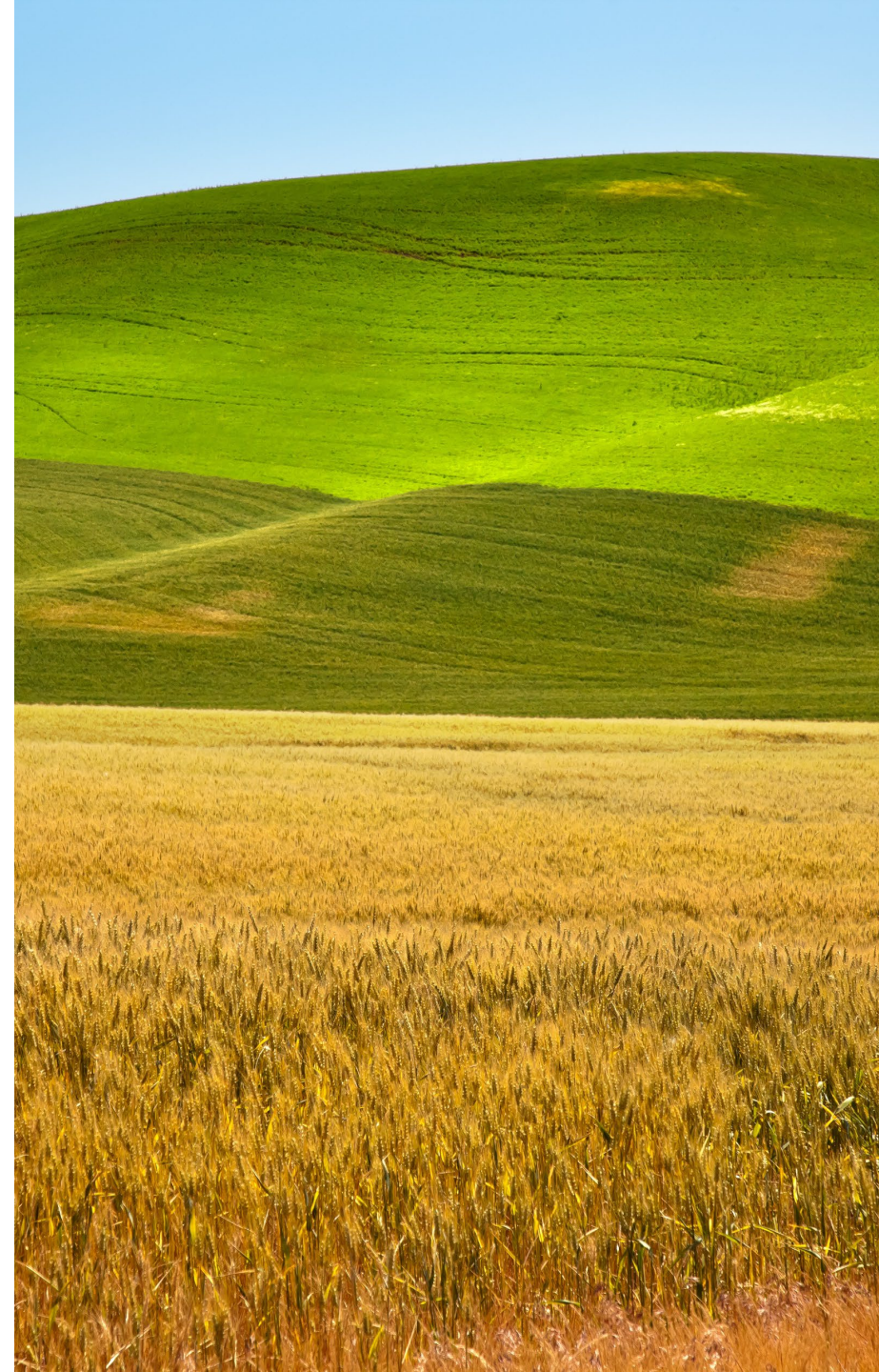
- Rare, autosomal recessive disorder.
  - ~130 individuals diagnosed worldwide.
- It is among three types of inherited anomalies that impact the metabolism and transport of creatine in the body, also known as cerebral creatine deficiency syndromes (CCDS).
- If untreated, GAMT Deficiency leads to developmental delays and cognitive impairments (can be moderate or severe).
- Signs and symptoms of the condition vary and can start anywhere from 3 months to 2 years of age.





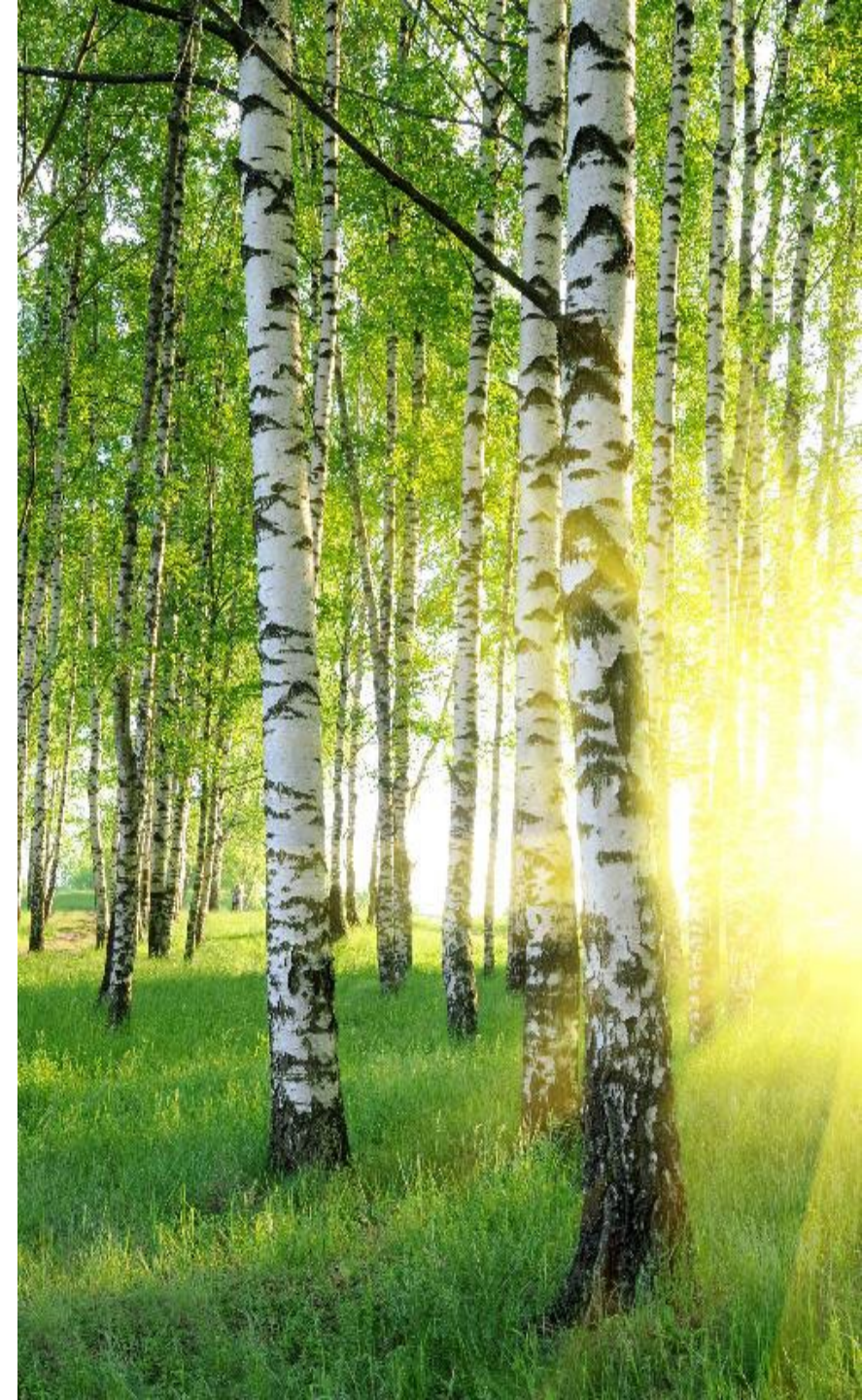
# Available Screening Technology

- Technology – Tandem mass spectrometry (MS/MS)
  - Technology in WA NBS Program since 2004
- Measures guanidinoacetate (GUAC) and creatine in the blood.
- Currently, Utah, New York, British Columbia (Canada), and Victoria (Australia) have screening programs for GAMT.
- Across the 4 screening programs – 3.07 million babies:
  - 3 cases of GAMT (prevalence = 1:1,000,000 births)
    - 3 true positives (sensitivity = 100%)
    - 0 false negatives
  - False positive rate (NY+UT) 2.1/100,000 (specificity = 99.99%).



# Diagnostic Testing & Treatment

- Testing includes:
  - Biochemical Testing: Measuring Guanidinoacetate (GUAC or GAA) and creatine levels in blood or urine.
  - Molecular Genetic Testing: Analysis of GAMT gene.
  - Brain magnetic resonance spectroscopy: May also be an option and would detect low-level cerebral creatine levels in the central nervous system (CNS).
- Treatment:
  - Oral creatine, sodium benzoate, and/or ornithine supplements.
  - Low protein diet and supplementation with a synthetic arginine-free formula.
  - Physical, occupational, speech, and behavioral therapy.
- According to the published literature, if treatment is started early, the condition is highly treatable.



# Cost-Benefit for Adding Newborn Screening for GAMT

No Screening	Babies/Year	Value/Year
Severe Disability	0.0385	
Moderate Disability	0.0342	
No Disability	0.0083	
Early Treatment Costs		\$93.85
Late Treatment (Severe) Costs		\$68,495.18
Late Treatment (Moderate) Costs		\$55,443.93
Total Costs		\$124,032.96

Screening	Babies/Year	Value/Year
Severe Disability	0.00021	
Moderate Disability	0.00019	
No Disability	0.0806	
Early Treatment Costs		\$1,045.88
Late Treatment (Severe) Costs		\$376.05
Late Treatment (Moderate) Costs		\$304.40
Total Costs		\$1,726.33

# Cost-Benefit for Adding Newborn Screening for GAMT

Benefits	Value
Shift in early treatment costs	-\$952.03
Shift in late treatment (severe) costs	\$68,119.13
Shift in late treatment (moderate) costs	\$55,139.53
Total benefits	\$122,306.64

Costs	Value
Costs of screening (\$0.99 per baby)	\$82,008.19
Cost of false positives	\$2,178.75
Total costs	\$84,186.94

Benefit/Cost ratio	<b>1.453</b>
Net Benefit	<b>\$38,119.70</b>

# GAMT TAC Voting Summary – Criteria

Criteria	Yes	No	Unsure	No Response
Available Screening Technology	14	0	0	2
Diagnostic Testing and Treatment	13	0	1	2
Prevention Potential and Medical Rationale	13	1	0	2
Public Health Rationale	14	0	0	2
Cost-benefit / Cost effectiveness	14	0	0	2

# GAMT TAC Voting Summary – Overall Recommendation

Option	Vote
1. I recommend the Board add GAMT Deficiency to the list of conditions for which all Washington-born newborns must be screened.	16
2. I do not recommend the Board add GAMT Deficiency to the list of conditions for which all Washington-born newborns must be screened.	0
3. At this time, I do not recommend the Board add GAMT Deficiency to the list of conditions for which all Washington-born newborns must be screened; I recommend the Board revisit GAMT Deficiency at a future date.	0

# Board Member Discussion & Next Steps

For discussion: Does the Board agree with the TAC's recommendation for GAMT Deficiency?

Possible Action: The Board may consider the following...

- Direct staff to initiate rulemaking to include GAMT Deficiency screening in the NBS panel.

OR

- Determine that GAMT Deficiency should not be considered at this time and revisit the condition in two years.



# ARG1-D Background, Committee Voting, & Recommendation





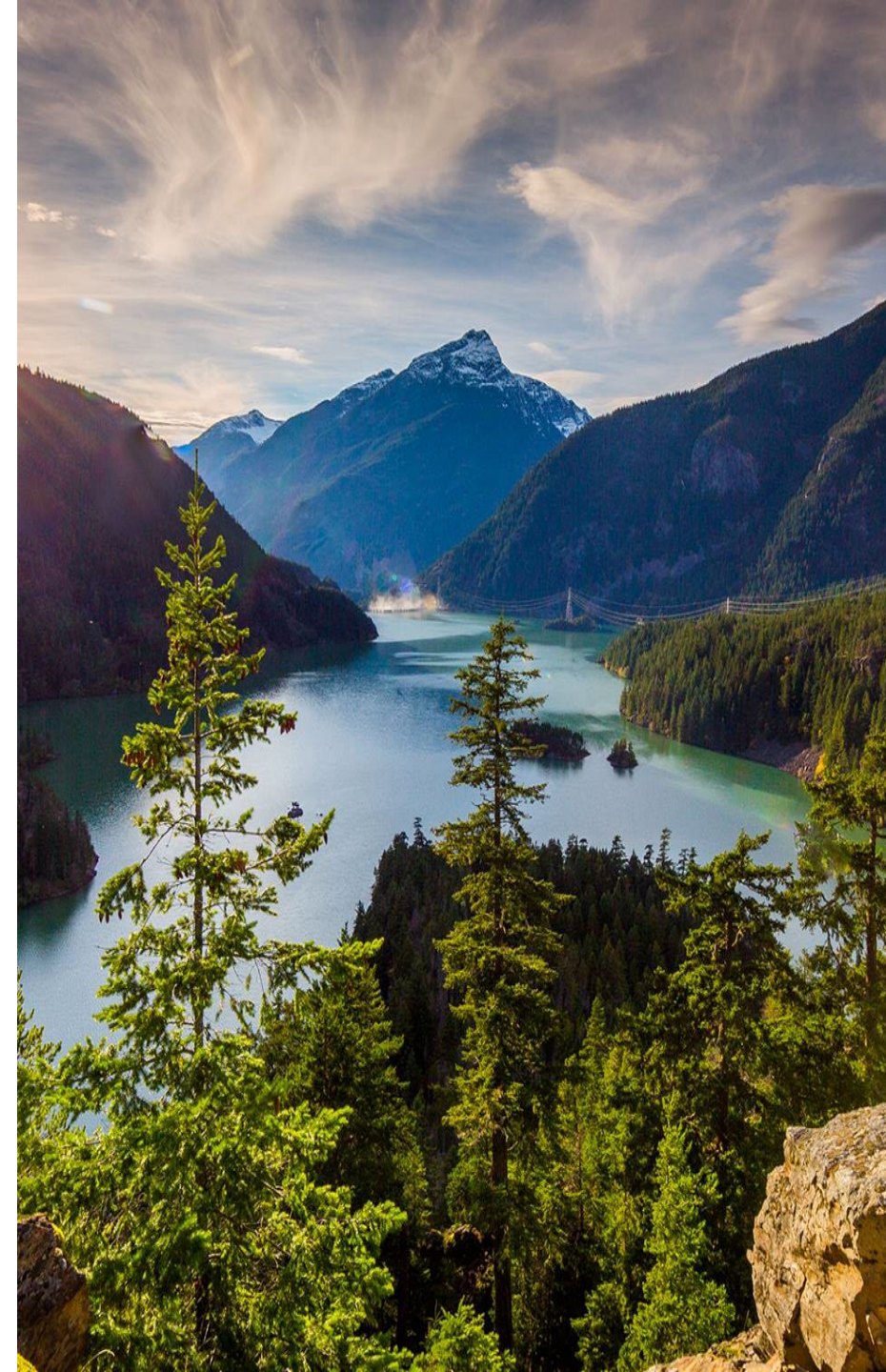
# Background – ARG1-D

- Rare, autosomal recessive disorder.
- Causes the amino acid arginine and ammonia to accumulate in the blood.
  - When ammonia levels become too high, it has neurotoxic effects.
- Newborns are typically asymptomatic.
- Symptoms start off subtle, do not start to become apparent until early childhood (1-3 years of age), and are progressive without treatment. Symptoms may include:
  - Spasticity in lower extremities (most common, affects 80-90% of those diagnosed)
  - Impairments in cognitive development
  - Seizures
  - Stunted growth
  - Challenges with eating
  - Liver problems



# Available Screening Technology

- Technology – Tandem mass spectrometry (MS/MS)
  - Technology in WA NBS Program since 2004
- Measures high levels of arginine in the blood.
- Over 30 states currently screen for ARG1-D either as a primary or secondary screening target.
- U.S. based Screening – 29 million babies
  - 22 cases of ARG1-D identified (prevalence = 0.75:1,000,000 births)
    - 22 true positives (sensitivity = 100%)
    - 0 false negatives
  - False positive rate (US) 5.0/100,000 (specificity = 99.99%)



# Diagnostic Testing & Treatment

- Testing includes:
  - Biochemical testing: Measurement of plasma arginine level on plasma amino acid analysis.
  - Genetic testing: Analysis of the ARG1-D gene.
  - Measurement of ARG1-D Enzyme Activity Levels.
- Treatment includes:
  - Low-protein diet and supplement with synthetic arginine-free amino acid formula.
  - Ammonia diversion therapy: Nitrogen scavenging medications (sodium benzoate, sodium phenylbutyrate, glycerol phenylbutyrate).
  - Referrals to neurology, and physical, occupational, and/or speech therapy.
- Current treatments lower but do not normalize arginine levels.
  - According to the published literature, ARG1-D is partially treatable with current tools available.
  - However, even a partial reduction in arginine has a meaningful impact on disease outcomes.



# Cost-Benefit for Adding Newborn Screening for ARG1-D

No Screening	Babies/Year	Value/Year
Deaths	0.0075	
Surviving with long-term disability	0.0637	
Surviving without long-term disability	0.0117	
Early Treatment Costs		\$19,853.16
Late Treatment Costs		\$114,264.14
Total Costs		\$134,117.30

Screening	Babies/Year	Value/Year
Deaths	0.0000456	
Surviving with long-term disability	0.0095	
Surviving without long-term disability	0.0734	
Early Treatment Costs		\$124,167.36
Late Treatment Costs		\$679.41
Total Costs		\$124,846.77

# Cost-Benefit for Adding Newborn Screening for ARG1-D

Benefits	Babies/Year	Value
Deaths averted	0.00750	
Long-term disability averted	0.0542	
Value of long-term disability averted		\$81,259.71
Value of a life		\$11,600,000.00
Value of lives saved		\$86,981.13
Less treatment costs		\$9,270.54
Total benefits		\$177,511.38

Costs	Value
Costs of screening (\$0.99 per baby)	\$82,008.19
Cost of false positives	\$5,255.13
Total costs	\$87,263.32

Benefit/Cost ratio	<b>2.03</b>
Net Benefit	<b>\$90,248.06</b>

# ARG1-D TAC Voting Summary – Criteria

Criteria	Yes	No	Unsure	No Response
Available Screening Technology	14	1	0	1
Diagnostic Testing and Treatment	11	1	3	1
Prevention Potential and Medical Rationale	14	0	1	1
Public Health Rationale	15	0	0	1
Cost-benefit / Cost effectiveness	13	0	2	1

# ARG1-D TAC Voting Summary – Overall Recommendation

Option	Vote
1. I recommend the Board add ARG1-D to the list of conditions for which all Washington-born newborns must be screened.	16
2. I do not recommend the Board add ARG1-D to the list of conditions for which all Washington-born newborns must be screened.	0
3. At this time, I do not recommend the Board add ARG1-D to the list of conditions for which all Washington-born newborns must be screened; I recommend the Board revisit ARG1-D at a future date.	0

# Board Member Discussion & Next Steps

For discussion: Does the Board agree with the TAC's recommendation for ARG1-D?

Possible action: The Board may consider the following...

- Direct staff to initiate rulemaking to include ARG1-D screening in the NBS panel.

OR

- Determine that ARG1-D should not be considered at this time and revisit the condition in two years.





# | THANK YOU

# Considering adding Guanidinoacetate methyltransferase (GAMT) deficiency to the Washington State Newborn Screening Panel

A narrative of an economic analysis for the Department of Health, State Board of Health, and technical advisory committee

September 2023

## **Proposed Rule and Brief History**

The State Board of Health (Board) is authorized by RCW 70.83.050 to adopt rules and regulations relating to congenital newborn screening (NBS). The Board established rules under Chapter 246-650 WAC regarding which conditions to include on the NBS panel. RCW 70.83.020 grants the Board authority to identify which screening the Department of Health (Department) is required to perform for all infants in the state. RCW 70.83.030 tasks the Board with adopting rules related to the reporting of heritable and metabolic disorders to the Department.

In January 2023, the Secretary of Health and Human approved the recommendation to add GAMT deficiency to the federal Recommended Uniform Screening Panel (RUSP). On February 24, 2023, it was petitioned to the Board to request adding Guanidinoacetate methyltransferase (GAMT) deficiency screening to chapter 246-650 WAC as a condition for newborn screening. The Board directed Department staff to convene a multidisciplinary technical advisory committee (TAC) to consider adding GAMT deficiency to the list of mandated NBS conditions in Washington. The TAC evaluated GAMT deficiency against the Board's criteria for newborn screening.

## **Overview and Background – Guanidinoacetate methyltransferase deficiency**

Guanidinoacetate methyltransferase (GAMT) deficiency is an autosomal recessive disorder of the GAMT gene that impairs the production of creatine in the body, while also increasing levels of guanidinoacetate (GUAC in this report, but also referred to GAA in other literature). Without proper levels of creatine, the body cannot use energy or grow appropriately, which can then lead to the development of intellectual disability. High levels of GUAC can lead to the rise of seizures (1).

GAMT deficiency signs usually do not present until at least 3 months of age and newborns are asymptomatic. Literature shows that individuals diagnosed later in life have increased disability (3). Early identification of GAMT deficiency can allow babies to begin treatment to increase levels of creatine and decrease GUAC concentration, leading to normal development as they grow.

GAMT deficiency can present as a spectrum of disabilities. Patients with severe disabilities often see frequent seizures that are resistant to anti-epileptic drugs (4). As described by several points of literature, those with severe disabilities also have limited intellectual function and likely cannot live alone (3). Those with moderate disabilities often see seizures as well, but with decreased frequency and may be responsive to anti-epileptic drugs (4). Patients have higher intellectual function, described as a grade 3 to 6 level (3). Early identified babies represented in literature show to have normal development and no disabilities when compliant with treatment.

GAMT deficiency is present in approximately 1 in 1,000,000 babies (1), using a pooled population. At present, three states in the U.S screen for GAMT deficiency – Michigan, New York, and Utah. Outside of the U.S, British Columbia, Ontario, and Victoria, Australia also currently screen for GAMT deficiency.

Treatment for GAMT deficiency depends on the diagnosis and can include creatine in the form of oral creatine monohydrate to increase creatine levels (typically 400 mg/kg of body weight/day), L-ornithine supplements to reduce levels of GUAC (100-800 mg/kg/day), and sodium benzoate to reduce glycine levels (100 mg/kg/day) (4). In addition to these dietary supplements, a protein restricted diet reduces arginine in the body. A combination of these treatments depends on severity and works to increase creatine levels and prevent guanidinoacetate in the nervous system. The treatment regimen is necessary every day.

### **Overview of Benefit-Cost Analysis**

The following summary describes the benefit-cost analysis performed for adding GAMT deficiency to the mandatory NBS panel. The calculations for this analysis were done in a spreadsheet (available upon request) and describes the medical model for comparing the status quo, or a “No Screening Model” (upper section) with a “Screening Model” (lower section). The analysis is from the health sector perspective, in which all costs for providing services are estimated, regardless of who pays the cost.

Point estimates and ranges for input values were derived from published literature, expert clinical opinion, and data from states that screen for GAMT deficiency in their NBS panel. The model predicts a benefit-cost ratio of 1.453, meaning that for every dollar of costs to screen newborns for GAMT deficiency, there will be a \$1.45 worth of benefits. The model structure was developed in 2023 by the Washington NBS program and will be presented to the State Board of Health on September 8, 2023.

There is a good newborn screening test for finding newborns with GAMT deficiency. One of the tricky things about GAMT deficiency is that symptoms generally do not appear until 3 months of age. When found early, either through newborn screening or family history, and started on treatment immediately, newborns are found to develop normally.

We constructed an economic model to estimate the costs and benefits of NBS for GAMT deficiency (Newborn Screening Model). The analysis compares these costs to what is happening now (No Screening Model).

The first step is to estimate the number of newborns with GAMT deficiency. We used information from primary literature to estimate the number of babies with GAMT deficiency born in Washington State this year. We chose to use one year of babies for this analysis.

The next step is to find out which newborns will be diagnosed early and benefit from intervention. In the No Screening Model, a small percentage of newborns will be diagnosed early because they have a family member with GAMT deficiency (positive family history). We use the sensitivity of the screening test to estimate the number of newborns diagnosed early in the Newborn Screening Model. The sensitivity is the ability of the test to correctly identify newborns with GAMT deficiency. Our model predicts that each year there will be 0.0806 (cell H26) newborns identified early each year through screening, compared to identification through family history alone, (estimated 0.0072 newborns identified (cell H4)).

Next, we compare the medical outcomes for early versus late identification and the onset of symptoms. The morbidity estimates are the percentages of newborns we expect to develop the specific severity of GAMT deficiency listed. There is a larger chance for both moderate and severe disability in late identified GAMT deficiency compared to early identified cases.

We have constructed what is called a decision tree. The next step is to walk our way through each branch of the decision tree. To do this, we multiply the rates by the number of newborns affected to find out how many newborns have each of the medical outcomes. In the end, we will have estimates for the number of newborns that fall into each category. Because GAMT deficiency is rare, the estimates are often less than one baby. Another way of looking at this would be to make the hypothetical population larger. If we multiply our birth population by 1000, 0.0072 newborns with early identified GAMT deficiency would become 7.2 newborns.

Now is the time to compare each of the outcomes. As there is no mortality rate per the literature (1), we do not perform a calculation on death. First, we add each of the severe disability buckets together. We subtract the number of severe disabilities in the Newborn Screening Model from the No Screening Model to find the shift in numbers. We then repeated this process with the moderate disability buckets, giving us two shift values (one for the shift in severe disabilities and one for the shift in moderate disabilities). We also calculate the disability that persists after receiving treatment and include this in our totals. For the No Screening model, 0.0385 (cell T2) babies will have severe disability and 0.0342 (cell T3) babies will have moderate disability. In the Screening Model, 0.00021 (cell T23) babies will have severe disability and 0.00019 (cell T24) babies will have moderate disability. We also calculate the costs of the annual testing for newborns identified early and treatment costs for disabilities in both models and find the shift in costs.

Next, we assign a value to severe and moderate disabilities. Authors Doble et al., 2020 (2), made estimates for the value of health and societal costs of intellectual disability. We used a range of \$64,000 to \$168,000 per year to estimate the value of disabilities averted through NBS, depending on severity. We chose to represent the first 12 years (Years 0-11), as this is the age group presented by Doble et al., 2020. This is reflected later in treatment costs.

We need to estimate how much the NBS program costs. Based on information from the Washington NBS program, we estimated that the costs per baby would be \$0.99. Screening tests are not perfect. This means that some babies who do not have GAMT deficiency will have positive NBS results. They need diagnostic testing to rule out GAMT deficiency.

The next step is to add up all the benefits and costs (disability averted, treatment costs, NBS testing costs, and costs of false positive results). We divide the benefits by the costs to get a benefit/cost ratio. Our final result is 1.453. This means that for every dollar spent to screen babies for GAMT deficiency, we receive about \$1.45 worth of benefits.

### **Technical Explanation of Model Parameters**

We chose numbers for a base case analysis: if we had several estimates from the published data, we either used an average or middle value. Note: the spreadsheet calculates the percentages and estimates, which in some instances been rounded for simplicity. Subsequent calculations are unaffected by this rounding, so sometimes numbers appear to not match perfectly.

- ***Birthrate.*** This analysis is for a hypothetical birth cohort of **83,000** babies (cells B7 and B27) which is the number of babies expected to be screened per year in Washington State. This number is based on the number of births projected in Washington in 2023.
- ***Prevalence.*** The prevalence used was **9.759 E -07** or **approximately 1 GAMT deficiency case per 1,000,000 births** (cells D8 and D 28), which is the prevalence reported by the Health Resources and Services Administration (HRSA) (1). This predicts **0.081 babies born with GAMT deficiency** in Washington each year (cells E7 and E27).
- ***Percent of babies with GAMT deficiency with a positive family history of GAMT deficiency.*** We assume that these babies will be treated early in the “No Screening Model” because of a positive family history of GAMT deficiency (mostly an older affected sibling in the family). The estimate for this parameter (**0.0893** – cell G4) is a calculation from cases reported in literature (4, 5, 6).
- ***Sensitivity.*** The sensitivity, or the ability of the screen to correctly identify babies with GAMT deficiency, is estimated at **99.5%** (cell G 26), Although there have been no known missed cases in GAMT deficiency NBS programs (8), false negatives are inevitable in screening programs. The sensitivity of the NBS test predicts 0.086 true positives identified early and 0.0004 false negatives (missed cases of GAMT deficiency) per year.
- ***Specificity.*** The specificity, or the ability of the screen to correctly identify babies who do not have GAMT deficiency, is estimated at **99.998%** (cell G 47), based on the information from the Health Resources and Services Administration (HRSA) (1). The specificity value predicts 1.743 false positives (cell H41): these are babies who will need diagnostic testing and sometimes clinical follow up.

- ***Morbidity in cases identified early.*** The morbidity estimates for early identified cases for severe disability from GAMT deficiency (**0%**, cell J3, J25) and moderate disability (**0%**, cell J5, J27) are from primary literature (3, 4, 5). Typically, the benefit for babies identified early is no disability from GAMT deficiency.
- ***Morbidity in cases identified late.*** The morbidity estimates for late identified cases for severe disability from GAMT deficiency (**52.2%**, cell J11, J36) and moderate disability (**47.8%**, cell J13, J38) are from primary literature (3, 4, 5, 6, 7). We then stratified if babies had disability existing after treatment. In severe disability cases **100%** (cell N11, N37) of babies still experienced disability. In moderate disability cases, **97%** (cell N17, N44) of babies still experienced disability.
- ***Treatment costs for cases identified early.*** The cost for Years 1-11 for treatment in babies identified early is estimated at **\$12,976.50** (cell S11). This includes medication and monitoring visits.
- ***Treatment costs for cases identified late, severe disability.*** The costs for Years 1-11 in babies identified late exhibiting severe disability is estimated at **\$1,779,606.10** (cell S12). This includes medication, intellectual disability associated costs (healthcare and societal) (2) and seizure costs.
- ***Treatment costs for cases identified late, moderate disability.*** The costs for Years 1-11 in babies identified late exhibiting moderate disability is estimated at **\$1,571,471.30** (cell S13). This includes medication, intellectual disability associated costs (healthcare and societal) (2) and seizure costs.

The next step is to evaluate the differences between the models to quantify the benefits of screening. This is done by combining the morbidity estimates and assigning a dollar value to disability averted and the difference in treatment costs.

- ***Shift in early treatment costs.*** The early and late treatment costs for each model are calculated and combined to determine the costs of treatment in each model. (**No Screening = \$93.85**, cell T5; **NBS = \$1,045.88**, cell T26). The annual treatment cost difference is **-\$952.03**, meaning that there are more costs associated with early identification.
- ***Shift in late treatment (severe) costs.*** The early late treatment costs for each model are calculated and combined to determine the costs of treatment in each model (**No Screening = \$68,495.18**, cell T6; **NBS = \$376.05**, cell T27). The annual treatment costs saved by screening (**\$68,119.13**, cell T31) meaning that early identification costs less and there are less costs associated with severe disability from GAMT deficiency.
- ***Shift in late treatment (moderate) costs.*** The early and late treatment costs for each model are calculated and combined to determine the costs of treatment in each model (**No Screening = \$55,443.93** cell T7; **NBS = \$304.40**, cell T28). The annual treatment costs

saved by screening (\$68,119.13, cell T31) meaning that early identification costs less and there are less costs associated with moderate disability from GAMT deficiency.

- **Total benefits.** The total benefits (**\$122,306.64**, cell T36) are the sum of the shift in early treatment costs, late treatment (severe) costs and the shift in late treatment (moderate) costs.

Costs are estimated next.

- **Cost per baby.** The estimated costs of GAMT deficiency testing are **\$0.99 per baby** (cell A35).
- **Cost of screening.** The birthrate multiplied by the cost per baby is **\$82,008.19** (cell T43).
- **Cost of diagnostic testing for false positives.** Only the false positive babies are counted for diagnostic testing costs because babies with GAMT deficiency will have clinical evaluation and diagnostic testing regardless. The cost of false positive screening results is \$1,250.00 (cell S56) and includes urine analysis for creatine and GUAC, and molecular genetic testing to confirm GAMT deficiency. This false positive cost is multiplied by the amount of estimated false positive babies, giving a cost of **\$2,178.75** (cell T44).
- **Total costs of Newborn Screening Model.** The annual costs of NBS for GAMT deficiency are estimated to be **\$84,186.94** (cell T46).

Finally, the ratio of benefits to cost is calculated. Any ratio greater than 1 signifies that the benefits outweigh the costs.

- **Benefit/Cost Ratio:** \$122,306.64 of benefits divided by \$84,186.94 of costs yields a benefit/cost ratio of **1.453** (cell T49).

After completing the base case benefit-cost ratio, we performed a sensitivity analysis to evaluate how the benefit-cost ratio changes when estimates for the parameters are varied.

- **Sensitivity Analysis.** Table 1 contains three estimates for each parameter, the best guess estimate used in the base case (1.453) followed by conservative and liberal estimates. Only one parameter was changed at a time to generate unique benefit/cost ratios for each of the scenarios. The model proved to be robust and sensitive to six parameters: birth prevalence, % with GAMT family history, specificity, treatment costs, late ID (severe), treatment costs, late ID (moderate), and cost of NBS test. The lowest the benefit-cost ratio dipped was to 0.422 for the model in which the specificity was a low estimate of 99.8%.

### **Table 1. Sensitivity Analysis**



Parameter	B/C ratio swing		B/C ratio		B/C ratio swing
		low/conservative estimate	base	high/liberal estimate	
	1.453		1.453		
birthrate	1.453	62,250	83,000	103,750	1.453
birth prevalence - 1 in:	1.063	1,400,000	1,024,654.67	273,902	5.435
% w/ GAMT family hx	1.496	0.0625	0.0893	0.333	1.061
sensitivity	1.421	97.50%	99.50%	100%	1.461
specificity	0.422	99.80%	100.00%	100.00%	1.462
tx cost, early ID	1.458	\$6,488.25	\$12,976.50	\$25,953.00	1.441
tx cost, late ID, severe	1.048	\$889,803.05	\$1,779,606.10	\$3,559,212.20	2.262
tx cost, late ID, moderate	1.125	\$785,735.65	\$1,571,471.30	\$3,142,942.60	2.108
cost of NBS test	2.827	\$0.50	\$0.99	\$1.48	0.978
cost of false +	1.472	\$625.00	\$1,250.00	\$5,000.00	1.348

ID = identification, hx = history, tx = treatment

## **Conclusion**

Early identification of babies with GAMT deficiency is typically regarded as being beneficial to babies, their families and the medical professionals caring for them. The morbidity rates are greatly reduced with early treatment and medical costs are much lower compared to babies treated after becoming symptomatic.

This analysis used data from primary literature, NBS programs that currently screen for GAMT deficiency, and expert opinion to quantify benefits and costs for babies with GAMT deficiency with early and late treatment. The benefit-cost ratio was 1.453, meaning that for every dollar of costs to provide GAMT deficiency screening, there will be approximately \$1.45 worth of benefits. The sensitivity analysis showed that the model is robust because the benefit-cost ratio did not change much when more conservative or liberal estimates for parameters were made in the model.

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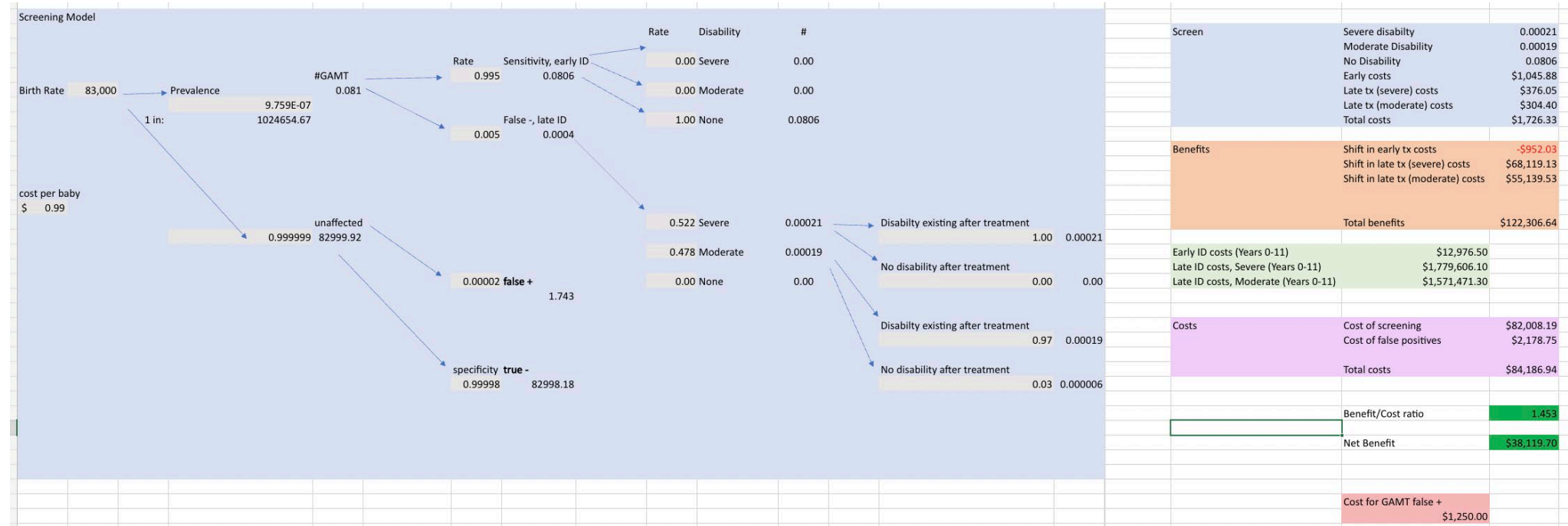
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## WA State Benefit-Cost Analysis for adding NBS for GAMT deficiency



# Considering adding Arginase-1 deficiency (ARG1-D) to the Washington State Newborn Screening Panel

A narrative of an economic analysis for the Department of Health, State Board of  
Health, and technical advisory committee

September 2023

## **Proposed Rule and Brief History**

The State Board of Health (Board) is authorized by RCW 70.83.050 to adopt rules and regulations relating to congenital newborn screening (NBS). The Board established rules under Chapter 246-650 WAC regarding which conditions to include on the NBS panel. RCW 70.83.020 grants the Board authority to identify which screening the Department of Health (Department) is required to perform for all infants in the state. RCW 70.83.030 tasks the Board with adopting rules related to the reporting of heritable and metabolic disorders to the Department.

On March 29, 2023, the Board received a petition request to amend chapter 246-650 WAC to add arginase-1 deficiency (ARG1-D) as a mandatory condition to Washington State's NBS panel. The Board directed Department staff to convene a multidisciplinary technical advisory committee (TAC) to consider adding ARG-1 D to the list of mandated NBS conditions in chapter 246-650 WAC. The TAC evaluated ARG1-D against the Board's criteria for newborn screening.

## **Overview and Background – Arginase-1 Deficiency**

Arginase-1 deficiency (ARG1-D) is a rare, inherited disorder. The enzyme arginase is involved in the urea cycle and the removal of nitrogen as it is catalyzed into ornithine. In the cases of ARG1-D, this enzyme is no longer functional, either partially or fully, leading to increased levels of plasma arginine. Toxic ammonia is also allowed to build up, as it is not removed properly.

ARG1-D signs usually do not present until 1 to 3 years of age. Newborns do not show symptoms. Literature shows that individuals diagnosed later in life have increased disability and mortality, as well as the increased risk for hyperammonemia, which can result in liver transplantation. Early identification of ARG1-D can allow babies to begin treatment early and begin nitrogen-scavenging drugs to normalize levels of arginine, leading to normal development.

ARG1D can present several disabilities – intellectual and developmental delay, spasticity in the lower extremities, and seizures. Extreme cases of elevated ammonia can lead to hyperammonemia. Those with extremely severe disabilities have a mortality rate of about 10.6%. These deaths have only been associated with late identified cases (1, 2).

ARG1-D is present in approximately 1 in 1,00,000 babies, when looking at the median value published literature (5). At present, 36 states screen for ARG1-D. There has also been research done on the prevalence outside the United States, for which these studies adjusted rates for consanguinity (7).

Treatment for ARG1-D can consist of several steps. Diet will be changed in order to reduce arginine and protein intake. This is often supported with the inclusion of essential amino acids. Nitrogen scavengers, such as sodium benzoate or sodium phenylbutyrate, are used to reduce the

levels of plasma ammonia. If seizures arise, medications such as carbamazepine can be prescribed. Finally, in extreme cases of very high levels of ammonia, liver transplantation can take place.

### **Overview of Benefit-Cost Analysis**

The following summary describes the benefit-cost analysis performed for adding ARG1-D to the mandatory NBS panel. The calculations for this analysis were done in a spreadsheet (available upon request) and describes the medical model for comparing the status quo, or a “No Screening Model” (upper section) with a “Screening Model” (lower section). The analysis is from the health sector perspective, in which all costs for providing services are estimated, regardless of who pays the cost.

Point estimates and ranges for input values were derived from published literature, expert clinical opinion, and data from states that screen for ARG1-D in their NBS panel. The model predicts a benefit-cost ratio of 2.03., meaning that for every dollar of costs to screen newborns for ARG1-D, there will be a \$2.03 worth of benefits. The model structure was developed in 2023 by the Washington NBS program and will be presented to the State Board of Health on September 8, 2023.

There is a good newborn screening test for finding newborns with ARG1-D. One of the tricky things about ARG1-D is that symptoms generally do not appear until 1 to 3 years of age (4). When found early, either through newborn screening or family history, and started on treatment immediately, newborns are generally found to develop normally.

We constructed an economic model to estimate the costs and benefits of NBS for ARG1-D (Newborn Screening Model). The analysis compares these costs to what is happening now (No Screening Model).

The first step is to estimate the number of newborns with ARG1-D. We used information from primary literature to estimate the number of babies with ARG1-D born in Washington State this year. We chose to use one year of babies for this analysis.

The next step is to find out which newborns will be diagnosed early and benefit from intervention. In the No Screening Model, a small percentage of newborns will be diagnosed early because they have a family member with ARG1-D (positive family history). We use the sensitivity of the screening test to estimate the number of newborns diagnosed early in the Newborn Screening Model. The sensitivity is the ability of the test to correctly identify newborns with ARG1-D. Our model predicts that each year there will be 0.0826 newborns (cell H39) identified early each year through screening, compared to identification through family history alone, (estimated 0.0132 newborns identified (cell H6)).

Next, we compare the medical outcomes for early versus late identification and the onset of symptoms. The mortality estimates are the percentages of newborns we expect to die from ARG1-D. The morbidity estimates are the percentages of newborns we expect to develop the long-term disability. There is a larger chance for both death and long-term disability in late identified ARG1-D compared to early identified cases.

We have constructed what is called a decision tree. The next step is to walk our way through each branch of the decision tree. To do this, we multiply the rates by the number of newborns affected to find out how many newborns have each of the medical outcomes. In the end, we will have estimates for the number of newborns that fall into each category. Because ARG1-D is rare, the estimates are often less than one baby. Another way of looking at this would be to make the hypothetical population larger. If we multiply our birth population by 1000, 0.083 newborns with early identified ARG1-D would become 83 newborns.

Now it is time to compare each of the outcomes. First, we add each of the death estimates together. We subtract the numbers of deaths in the Newborn Screening Model from the No Screening Model to find the shift in numbers. This is the difference made by NBS. For this model, each year NBS will save 0.00749 (cell W45) newborns from dying. We also calculate the costs of annual testing for newborns identified early and treatment costs in both models and find the shift in costs.

Next we assign a value to saving a life. The Federal Government makes estimates for the value of saving a life. We used an estimate of \$11,600,000 to estimate the value of a life saved through NBS.

We need to estimate how much the NBS program costs. Based on information from the Washington NBS program, we estimated that the costs per baby would be \$0.99. Screening tests are not perfect. This means that some babies who do not have ARG1-D will have positive NBS results. They need diagnostic testing to rule out ARG1-D.

The next step is to add up all the benefits and the costs (lives saved, long term disability averted, newborn screening costs, and costs of false positive results). We divide the benefits by the costs to get a benefit/cost ratio. Our final result is 2.03, which means for every dollar spent to screen babies for ARG1-D, we receive about \$2.03 worth of benefits.

### **Technical Explanation of Model Parameters**

We chose numbers for a base case analysis: if we had several estimates from the published data, we either used an average or middle value. Note: the spreadsheet calculates the percentages and estimates, which in some instances been rounded for simplicity. Subsequent calculations are unaffected by this rounding, so sometimes numbers appear to not match perfectly.

- ***Birthrate.*** This analysis is for a hypothetical birth cohort of **83,000** babies (cells B8 and B38) which is the number of babies expected to be screened per year in Washington State. This number is based on the number of births projected in Washington in 2023.
- ***Prevalence.*** The prevalence used was **1.000 E-06** or **approximately 1 ARG1-D case per 1,000,000 births** (cells D10 and D 39), which is the prevalence reported by the existing literature (3). This predicts **0.083 babies born with ARG1-D** in Washington each year (cells E8 and E38).
- ***Percent of babies with ARG1-D with a positive family history of ARG1-D.*** We assume that these babies will be treated early in the “No Screening Model” because of a positive family history of arginase-1 deficiency (typically an older affected sibling in the family). The estimate for this parameter (**0.00132** – cell H6) is a calculation from cases reported in literature.
- ***Sensitivity.*** The sensitivity, or the ability of the screen to correctly identify babies with ARG1-D is estimated at **99.5%** (cell G 39), Although there have been no known missed cases in ARG1-D NBS programs (11), false negatives are inevitable in screening programs. The sensitivity of the NBS test predicts 0.0826 (cell H39) true positives identified early and 0.00042 (cell H48) false negatives (missed cases of ARG1-D) per year.
- ***Specificity.*** The specificity, or the ability of the screen to correctly identify babies who do not have ARG1-D, is estimated at **99.989%** (cell G 47), based on the information primary literature (3) and data from Oregon NBS (8). The specificity value predicts 8.943 false positives (G51): these are babies who will need diagnostic testing and sometimes clinical follow up.
- ***Mortality of cases identified early.*** The numbers used for mortality for the early identified ARG1-D cases (**0%**, cells J3 and J37) is data from existing literature that early identified babies do not have a mortality rate (4).
- ***Mortality of cases identified late.*** The numbers for late identified ARG1-D (**10.6%**, cells J15 and J49) are from articles from Sawad et al., 2022(1) and Schlune et al., 2015 (2). These articles evaluated late identified cases of ARG1-D and reported a mortality rate. Additionally, mortality from liver transplant surgery itself was evaluated, based on existing literature and expert opinion (9, 10) (**3%**, cells N21 and M52).
- ***Monetary value of a life.*** The value of 1 life is estimated at **\$11,600,000** (cell W48). This estimate was provided in 2021 by the Department of Transportation (DOT) (6).
- ***Treatment costs for cases identified early.*** The cost for Years 0-10 in babies identified early is estimated at **\$1,503,509.80** (cells V11 and U54). This includes medication and monitoring visits.
- ***Treatment costs for cases identified late.*** The costs for Years 0-10 in babies identified late is estimated at **\$1.637,128.67**(cells V13 and U56). This includes medications, the cost of seizures, and the cost of liver transplantation in those who require it.



The next step is to evaluate the differences between the models to quantify the benefits of screening. This is done by combining the mortality and morbidity estimates and assigning a dollar value to death and disability averted, and the difference in treatment costs.

- **Deaths averted.** The total number of deaths from each model are compared; there are 0.0075 deaths (cell W2) predicted in the “No Screening Model” and 0.0000456 deaths (cell W34) in the “Newborn Screening Model”. The difference between the two models is **0.00749 deaths averted** (cell W45).
- **Value of lives saved.** The value of lives saved by newborn screening is the number of deaths averted multiplied by the monetary value of a life. The model estimated yearly benefits of **\$86,981.13** (cell W49) for saving lives of babies with ARG1-D.
- **LTD averted.** The total number of long-term disability cases from each model are compared; there are 0.0637 babies with LTD (cell W3) predicted in the “No Screening Model” and 0.0095 babies with LTD (cell W35) in the “Newborn Screening Model”. The difference between the two models is **0.0542 babies with LTD averted** (cell W46).
- **Value of LTD averted.** The value of LTD averted by newborn screening is the number of LTD averted multiplied by the monetary value of severe disabilities. This estimate is provided by expert Scott Grosse. The model estimated yearly benefits of **\$81,259.71** (cell W47).
- **Shift in treatment costs.** The early and late treatment costs for each model are calculated and combined to determine the costs of treatment in each model (**No Screening = \$134,117.90**, cell W8; **NBS = \$124,846.77**, cell W40). The annual treatment costs saved by screening are **\$9,270.54** (cell W50), meaning early identification costs less.
- **Total benefits.** The total benefits **\$177,511.38**, cell W51 are the sums of lives saved, LTD averted and treatment costs saved by screening.

Costs are estimated next.

- **Cost of screening.** The estimated costs of ARG1-D testing are **\$0.99 per baby** (cell A48).
- **Costs of diagnostic screening for false positives.** Only the false positive babies are counted for diagnostic testing costs because babies with ARG1-D will have clinical evaluation and diagnostic testing regardless. The cost of false positive screening results is **\$5,255.13** (cell W59) and includes plasma testing for arginine levels and sequencing for the ARG1 gene.
- **Total costs of ARG1-D newborn screening.** The birthrate multiplied by the cost per baby is **\$82,008.19** (cell W58).
- **Total costs of the Newborn Screening Model.** The annual costs of NBS for ARG1-D are estimated to be **\$87,263.32** (cell W60).

Finally, the ratio of benefits to cost is calculated. Any ratio greater than 1 signifies that the benefits outweigh the costs.

- **Benefit/Cost Ratio.** \$177,511.38 of benefits divided by \$87,263.32 of costs yields a benefit/cost ratio of **2.03** (cell W63).

After completing the base case benefit-cost ratio, we performed a sensitivity analysis to evaluate how the benefit-cost ratio changed when estimates for the parameters are varied.

- **Sensitivity Analysis.** Table 1 contains three estimates for each parameter, the best guess estimate used in the base case (2.03) followed by conservative and liberal estimates. Only one parameter was changed at a time to generate unique benefit/cost ratios for each of the scenarios. The model proved to be robust and somewhat sensitive to six parameters: birth prevalence, % with ARG1-D family history, specificity, treatment costs, cost of NBS test and cost of false positives. The lowest the benefit-cost ratio dipped was to 0.99 for the model in which the specificity was a low estimate of 99.8%.

**Table 1: Sensitivity Analysis**

Parameter	B/C ratio swing	B/C ratio			B/C ratio swing	sensitive?
		low/conservative estimate	2.03 base	high/liberal estimate		
Birthrate	2.03	62250	83,000	103750	2.03	no
birth prevalence - 1 in:	1.87	1088000	1000000	54065.67	37.62	yes
% w/ ARG1-D family hx	2.42	0	0.159090909	0.33	1.62	yes
sensitivity	1.99	97.50%	99.50%	100%	2.05	no
specificity	0.99	99.80%	99.99%	100%	2.16	yes
treatment cost, late ID	1.38	\$818,564.33	\$1,637,129	\$3,274,257.33	3.34	yes
value of a life	1.86	\$9,600,000.00	\$11,600,000.00	\$13,600,000.00	2.21	no
cost of NBS	3.83	\$0.50	\$0.99	\$1.48	1.39	yes
cost of false +	2.1	\$293.81	\$587.63	\$5,876.25	1.32	yes

ID = identification, hx = history

## Conclusion

Early identification of babies with ARG1-D is typically regarded as being beneficial to babies, their families and the medical professionals caring for them. The morbidity and mortality rates are reduced with early treatment and medical costs are lower compared to babies being treated after becoming symptomatic.

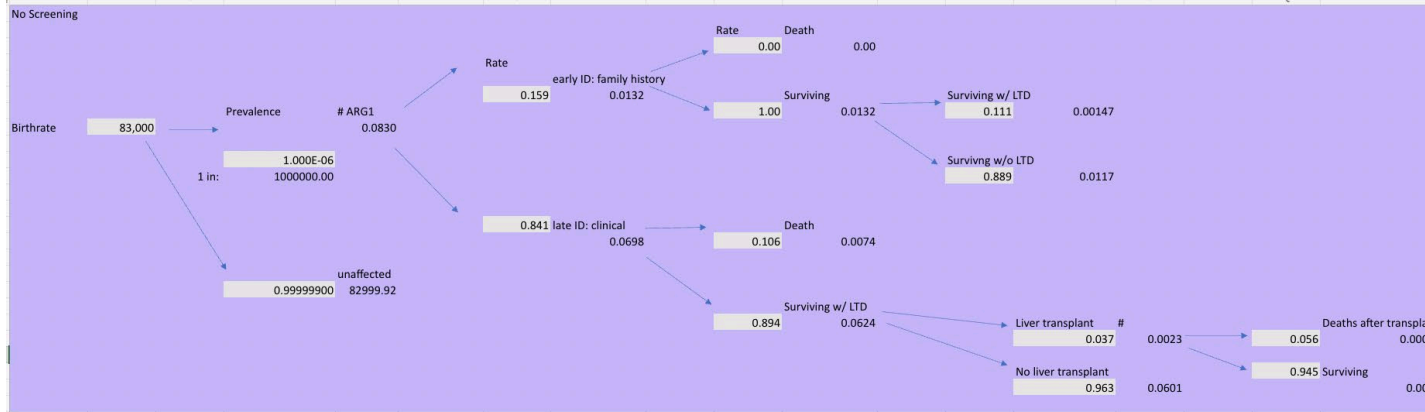
This analysis used data from primary literature, NBS programs that currently screen for ARG1-D, and expert opinion to quantify benefits and costs for babies with ARG1-D with early and late treatment. The benefit-cost ratio was 2.03, meaning that for every dollar of costs to provide ARG1-D screening, there will be approximately \$2.03 worth of benefits. The sensitivity analysis

showed that the model is robust because the benefit-cost ratio did not change much when more conservative or liberal estimates for parameters were made in the model.

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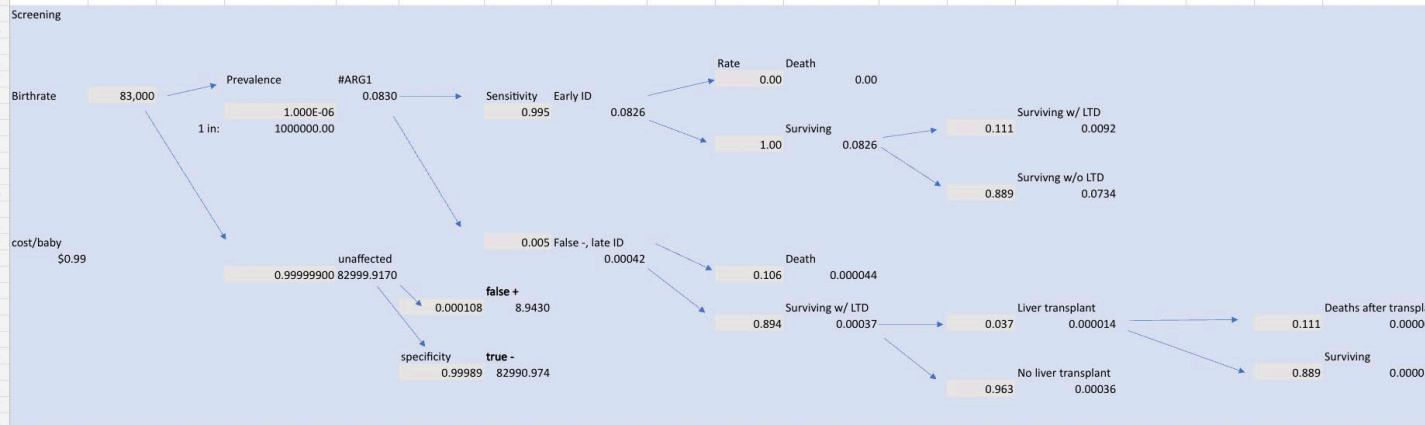
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## WA State Benefit-Cost Analysis for adding NBS for Arginase-1 deficiency



No Screening	Deaths	0.0075
	Surviving w/LTD	0.0637
	Surviving w/o LTD	0.0117
	Early tx costs	\$19,853.16
	Late tx costs	\$114,264.14
	<b>Total costs</b>	<b>\$134,117.30</b>

Early tx cost per baby (10 Years)	\$1,503,509.80
Late tx cost per baby (10 Years)	\$1,637,128.67



Screening	Deaths	0.0000456
	Surviving w/LTD	0.0095
	Surviving w/o LTD	0.0734
	Early tx costs	\$124,167.36
	Late tx costs	\$679.41
	<b>Total costs</b>	<b>\$124,846.77</b>

Benefits	Deaths averted	0.007498
	LTD averted	0.0542
	Value of LTD averted	\$81,259.71
	Value of a life	\$11,600,000.00
	Value of lives saved	\$86,981.13
	Less tx costs	\$9,270.54
	<b>Total benefits</b>	<b>\$177,511.38</b>

Early tx cost per baby (10 Years)	\$1,503,509.80
Late tx cost per baby (10 Years)	\$1,637,128.67

Costs	costs of screening	\$82,008.19
	costs of false +	\$5,255.13
	<b>Total costs</b>	<b>\$87,263.32</b>

benefit/cost ratio	2.03
Net benefit	\$90,248.06

Cost for ARG1 false +	\$587.63
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## **NEWBORN SCREENING TECHNICAL ADVISORY COMMITTEE SPECIAL MEETING SUMMARY NOTES**

**What:** Newborn Screening Technical Advisory Committee Meeting: Guanidinoacetate methyltransferase (GAMT) Deficiency and Arginase 1 Deficiency (ARG1-D)

**When:** September 8, 2023

### **Participating:**

- Technical Advisory Committee (TAC) Members Kelly Oshiro (State Board of Health Co-Chair), Nirupama (Nini) Shridhar (Department of Health Co-Chair), Steve Kutz, Dr. Tashi Gyaltson, Joan Chappel, María Á. Sigüenza, Dr. Eric Leung, Thomas May, Krystal Plonski, Kim Tuminello, Christine Zahn, Dr. LuAnn Chen, Khim Shoenacker, Trish Anderson, Nancy Ledbetter, and Dr. Emily Shelkowitz.
- State Board of Health (Board) staff Melanie Hisaw, Michelle Larson, Molly Dinardo, and Michelle Davis; Department of Health (Department) staff John Thompson, Samantha Fuller, Kelly Kramer, Michael Katsuyama, Alexandra Montaña, and other Department staff.
- Other Guests Melanie Ogleton and Amanda Winters (Meeting Facilitators), Makena Chandra (University of Washington), Tami Berk and Wilkes (American Sign Language Interpreters), Fernando Rios and Nicolás Arizaga (Spanish Interpreters), and approximately 15 members of the public.

### **Summary Notes**

#### **Welcome and Introductions**

- Michelle Larson and Molly Dinardo provided introductory remarks and overviews of the language interpretation channels and Zoom meeting functions; Melanie Ogleton asked TAC members to introduce themselves, their role and organization (if applicable), and to share their favorite summer treat.

#### **TAC Overview and Meeting Norms**

- TAC Co-Chairs Nini Shridhar and Kelly Oshiro discussed the scope and purpose of the meeting and plan for the day. Amanda Winters provided an overview of meeting norms.

#### **Newborn Screening Program Overview**

- John Thompson provided an overview of the Department's Newborn Screening (NBS) Program, noting there are currently 32 conditions that every baby in Washington is screened for. John T. shared information regarding the number of tests their lab completes each year, the number of newborns screened, and what happens when a baby has abnormal test results. John T. also discussed the

specialty care partners their program partners with and gave a brief overview of the Federal Recommended Uniform Screening Panel (RUSP).

### **Newborn Screening Criteria Review**

- Molly D. provided an overview of the Board's three guiding principles and criteria for evaluating candidate Conditions for the state's newborn screening program.

### **Family Perspective – GAMT Deficiency**

- Kim Tuminello, a parent of two children with GAMT Deficiency, provided a presentation on the impact of GAMT Deficiency on children and their families. Kim T. explained that GAMT Deficiency is a rare, recessive genetic disorder and that their child was one of the first in the U.S. to be diagnosed with this condition. Kim T. shared that their son was not diagnosed until 10 months old but noted that once treatment began, they saw very fast progress in their child's development, despite some difficulties with their developmental skills. When Kim's second child was born, since they were aware of the GAMT diagnosis in their son, they were able to get an early diagnosis for their daughter and start treatment early on. Kim T. shared that the health outcomes for their daughter have been very good, with the daughter having normal development. Kim mentioned that although both children will be on treatment for their entire lives, early diagnosis and treatment at birth are imperative for better outcomes.

### **Natural History of GAMT Deficiency – Diagnostic Testing and Available Treatment**

- Dr. Emily Shelkowitz shared a presentation on the natural history of GAMT Deficiency. Dr. Shelkowitz noted that GAMT Deficiency is very rare – about 130 people are diagnosed with the condition worldwide. Dr. Shelkowitz spoke about the age of onset and provided an overview of common and uncommon symptoms of GAMT, which range from mild to severe developmental delay to movement disorders and low muscle tone. Dr. Shelkowitz discussed the typical diagnosis of the condition, most commonly biochemical testing of blood or urine, and that treatment of the condition has two components, replenishing cerebral creatine stores or reducing guanidinoacetate levels (requiring close dietary monitoring).
- Dr. Shelkowitz shared outcomes in a case series of 48 individuals with GAMT Deficiency and the degree of disability correlated with the age of diagnosis. In the case series, the two individuals who were treated shortly after birth had normal development. Dr. Shelkowitz summarized that GAMT appears to be highly treatable if therapy is initiated early.

### **Available Screening Technology – GAMT Deficiency**

- Michael Katsuyama provided an overview of available screening technology for GAMT Deficiency, which includes a bloodspot test adapted to tandem mass spectrometry (MS/MS) to test for elevated levels of Guanidinoacetate (GUAC) and low levels of creatine. Michael K. noted that this technology is already being used by the Newborn Screening lab and has been in the program since 2004. Michael K. also included information from current states testing for the condition, and based on

these data, indicated that the sensitivity of testing is 100% and the false positive rate (specificity) is 99.99%.

- Dr. Tashi Gyaltson asked a clarifying question regarding when true positive cases could be expected and inquired if maternal circulation could affect newborn screening or create false negatives for those receiving early newborn screening. Dr. Shelkowitz responded that some disorders are affected by maternal diet; however, an amino acid profile in newborns collected at less than 24 hours of life is likely the newborn's own metabolism.

### **Cost-Benefit Analysis – GAMT Deficiency**

- Makena Chandra provided an overview of the economic model and results of the GAMT Deficiency cost-benefit analysis. The findings of the analysis showed that the benefits of newborn screening outweigh the costs – each dollar spent has an expected benefit of \$1.45.
- Steve Kutz asked if the costs in the model were based on lifetime costs. Makena C. responded that the costs in the model are through the age of twelve.

### **Application of Criteria and Discussion**

- Melanie Ogleton and Amanda Winters gave TAC Members three minutes of individual reflection using a set of reflection questions related to the Board's three guiding principles. Melanie O. and Amanda W. then opened things up for a larger group discussion and had members add any comments they didn't want to share verbally to a virtual notetaking and discussion platform called Padlet. The meeting facilitators also read questions and comments out from the Padlet to help facilitate the discussion.
- Thomas May, Dr. Tashi Gyaltson, Dr. Emily Shelkowitz, Dr. Eric Leung, Michael Katsuyama, and John Thompson discussed the available screening technology for GAMT Deficiency, the impact of ambiguous results, timing of testing, and the condition's low false positive rate compared to other newborn screening conditions, like Pompe disease.
- Dr. Shelkowitz emphasized that identifying GAMT early, specifically the period between 3 weeks to 3 months, is critical.
- Dr. Gyaltson spoke about the experience of having gone through a false positive case of Pompe with a family and emphasized the trauma the family experienced while waiting for confirmation of a diagnosis.
- In response to a Padlet question, Joan Chapel shared information about Medicaid coverage for genetic testing and coverage of the newborn screening test. Dr. LuAnn Chen and Steve Kutz commented on insurance coverage for genetic testing and noted that any delays in coverage impacts children's health outcomes.
- Molly Dinardo responded to a comment in the Padlet regarding the RUSP recommendation for GAMT and clarified that while Washington reviews and takes the federal recommendations into consideration, Washington has its own process to evaluate conditions.

### **GAMT Deficiency Vote #1 – Criteria**

- TAC Members participated in an anonymous, online vote to assess whether GAMT Deficiency meets or does not meet the five criteria established by the Board. See *addendum for vote summary and comments*.

### **GAMT Deficiency Vote #1 – Results and Discussion**

- Melanie Ogleton and Amanda Winters reviewed the results of the TAC’s vote and associated comments for each of the criteria established by the Board.

### **GAMT Deficiency Vote #2 – Recommendation**

- TAC Members participated in an anonymous, online vote on an overall recommendation to the Board regarding the addition of GAMT Deficiency in the state’s newborn screening panel. See *addendum for vote summary and comments*.

### **GAMT Deficiency Vote #2 – Results and Next Steps**

- Melanie Ogleton and Amanda Winters reviewed the results of the TAC’s vote and associated comments, noting clear consensus on the recommendation to add GAMT Deficiency. There were no additional comments or questions from TAC Members.
- Molly Dinardo described the next steps for the TAC, explained that the results of the committee will be shared at the October 9 Board meeting for further deliberation, and invited TAC members to attend.

### **Family Perspective – ARG1-D**

- Christine Zahn shared the story of their granddaughter Willow, who was diagnosed with ARG1-D at age 5. Christine Z. noted that an early diagnosis for Willow would have been life-changing, as ARG1-D is a silent disorder that wreaks havoc on the brain and body, all from eating food that we all eat. Christine Z. also shared that with an early diagnosis, dietary restrictions can be started immediately and slow down the progression of the disease. Christine Z. added that anything that we can do to help prevent the buildup of Arginase in the bodies of affected children and make an early diagnosis can make an immense impact on the physical, emotional, and financial well-being of children and their families. Christine Z. then shared a video detailing the shared experiences of children and families impacted by ARG1-D.

### **Natural History of ARG1-D – Diagnostic Testing and Available Treatment**

- Dr. Emily Shelkowitz shared a presentation detailing the natural history of ARG1-D. Dr. Shelkowitz noted that, like GAMT, ARG1-D is also rare, with less than 260 individuals having been diagnosed to date. Dr. Shelkowitz mentioned that newborns are typically asymptomatic, and symptoms of the condition are “insidious” and don’t typically become apparent until a child is about 1 to 3 years old. Dr. Shelkowitz also shared common symptoms associated with ARG1-D and noted that because one of the most common symptoms is spasticity in the legs, ARG1-D can be misdiagnosed as cerebral palsy. Dr. Shelkowitz discussed the typical diagnosis of the condition, most commonly through biochemical testing measuring plasma arginine, and treatment of ARG1-D which entails reducing levels of arginine through low-protein diets and/or ammonia diversion therapy and monitoring arginine levels to avoid hyperammonemia.



- Dr. Shelkowitz shared that current treatment lowers but does not normalize arginine levels. Based on published literature, Dr. Shelkowitz summarized that ARG1-D is partially treatable with the clinical tools currently available, and even a partial reduction in arginine has clear and meaningful impacts on the disease course.

### **Available Screening Technology**

- Michael Katsuyama provided an overview of available screening technology for ARG1-D, which, like GAMT, includes a bloodspot test adapted to tandem mass spectrometry (MS/MS).
- Michael K. mentioned that the Washington Newborn Screening Program is already running the ARG1-D test for Idaho babies, which has ARG1-D on its state screening panel. Michael K. also included information from current states testing for the condition, and based on these data, indicated that the sensitivity of testing is 100% and the false positive rate (specificity) is 99.99%.
- Kelly Oshiro asked how long Washington has been screening ARG1-D for Idaho babies, and if any cases have been identified yet. Michael K. responded that they have been doing this screening since 2021 and that they haven't identified any cases of ARG1-D to date.
- Dr. Tashi Gyaltson asked if Washington had considered screening for ARG1-D prior to this meeting. John Thompson responded with some background history on the Board and the Department's condition review process, which was put into place once the lab started using tandem mass spectrometry (MS/MS), a technology that has the capability for screening many different conditions. John T. noted that when Idaho requested that the Washington lab support its newborn screening testing, this didn't have an impact on the conditions Washington screened for, since Washington has its own process for evaluating conditions.
- Nini Shridhar, Dr. Eric Leung, and Dr. LuAnn Chen asked questions about current screening technology and capabilities with tandem mass spectrometry and inquired about the differences between core and secondary conditions on the federal RUSP. John T. and Dr. Emily Shelkowitz responded to their questions.

### **Cost-Benefit Analysis – ARG1-D**

- Makena Chandra provided an overview of the economic model and results of the ARG1-D cost-benefit analysis. The findings of the analysis showed that the benefits of newborn screening outweigh the costs – each dollar spent has an expected benefit of \$2.03.
- Dr. Tashi Gyaltson inquired if the Washington lab is already testing all specimens for ARG1-D. John Thompson responded that the lab is only testing specimens that come in from Idaho for ARG1-D.
- Steve Kutz, Nini Shridhar, and Dr. Emily Shelkowitz discussed that ARG1-D outcomes vary based on the accumulation of arginine, the timing of when treatment is initiated, and the dietary needs of people diagnosed with ARG1-D.

### **Application of Criteria and Discussion**

- Melanie Ogleton and Amanda Winters gave TAC Members three minutes of individual reflection using a set of reflection questions related to the Board's three

guiding principles. Melanie O. and Amanda W. then opened things up for a larger group discussion and had members add any comments they didn't want to share verbally to a virtual notetaking and discussion via Padlet. The meeting facilitators also read questions and comments from the Padlet to help facilitate the discussion.

- The facilitators read a question regarding timing around confirmatory testing. Dr. Emily Shelkowitz discussed expected timelines and their specific variations.
- The facilitators read a question regarding who absorbs the additional testing costs. Dr. Shelkowitz stated that confirmatory biochemical tests would go through insurance, are not expensive, and do not require pre-authorization. Genetic testing would need to wait for pre-authorization but would still run through insurance. John Thompson added that for newborn screening testing, the panel is a fee for service testing and would be billed at the time of screening and would be one screening cost per baby.
- The facilitators read a question concerning challenges to children/families in trying to manage arginine levels. Christine Zahn responded that this could be very challenging, especially if a child is school-aged or has multiple caregivers – it can be difficult to get them to consume food, and it requires close monitoring and tracking.
- TAC Members also discussed equity considerations around whether universal screening allows for better access to a diagnosis and equity in care received. John Thompson stated that without universal screening, there isn't the opportunity to intervene or to get a diagnosis. Dr. Shelkowitz echoed John's point and agreed that while there are equity issues around care, universal screening allows for equity around screening and a potential early diagnosis.

#### **ARG1-D Vote #1 – Criteria**

- TAC Members participated in an anonymous, online vote to assess whether ARG1-D meets or does not meet the five criteria established by the Board. *See addendum for vote summary and comments.*

#### **ARG1-D Vote #1 – Results and Discussion**

- Melanie Ogleton and Amanda Winters reviewed the results of the TAC's vote and associated comments for each of the criteria established by the Board.

#### **ARG1-D Vote #2 – Recommendation**

- TAC Members participated in an anonymous, online vote on an overall recommendation to the Board regarding the addition of ARG1-D in the state's newborn screening panel. *See addendum for vote summary and comments.*

#### **ARG1-D Vote #2 – Results and Next Steps**

- Melanie Ogleton and Amanda Winters reviewed the results of the TAC's vote and associated comments, noting clear consensus on the recommendation to add ARG1-D. There were no additional comments or questions from TAC Members.

#### **Meeting Closeout**

- Kelly Oshiro shared more information regarding the upcoming Board consideration and voting on the TAC's recommendations on October 9 in Wenatchee. Kelly O.

thanked the TAC Members and families for sharing their stories and thanked the Board and Department staff, and the meeting interpreters. Nirupama Shridhar and other TAC Members echoed Kelly O's sentiments.

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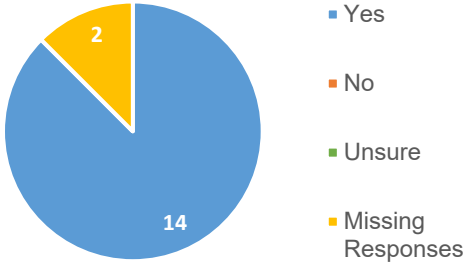
# WASHINGTON STATE BOARD OF HEALTH

## Newborn Screening Technical Advisory Committee: Guanidinoacetate methyltransferase (GAMT) and Arginase 1 Deficiency (ARG1-D)

### GAMT Deficiency Voting Summaries and Comments

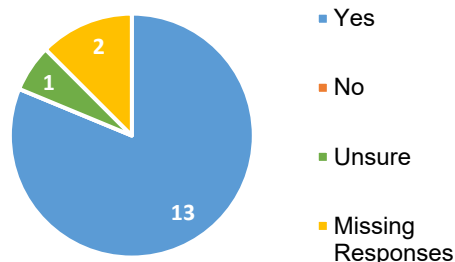
The following is a compilation of comments from technical advisory committee (TAC) members provided when voting on each individual criteria, and an overall recommendation for GAMT Deficiency. Comments have been summarized and are organized by each criterion, and then overall comments are provided.

#### Criteria Evaluation

Criteria	Comments and Major Themes
<p>1. Available Screening Technology</p>  <p> <span style="color: blue;">■</span> Yes  <span style="color: orange;">■</span> No  <span style="color: green;">■</span> Unsure  <span style="color: yellow;">■</span> Missing Responses         </p>	<ul style="list-style-type: none"> <li>• GAMT testing has high sensitivity and specificity.</li> <li>• Screening technology is already in place at the Department of Health NBS lab to support screening for the condition.</li> <li>• “This is life-changing screening” – the testing will benefit affected children, their families, and communities.</li> </ul>

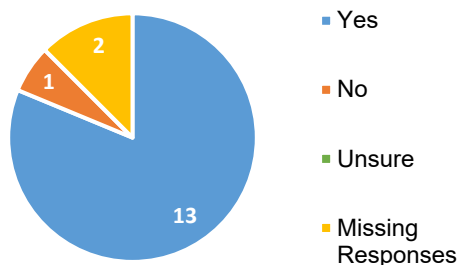
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2. Diagnostic Testing and Treatment Available



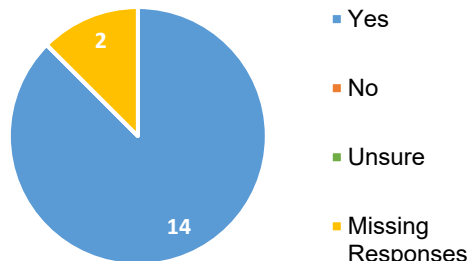
- If diagnosed early, treatment options are available with proven positive impact and efficacy.
- Biochemical and genetic testing is available for confirmation of diagnosis, and there are specialists in areas of Washington to manage this condition.
- Initial treatment options include starting over-the-counter creatine supplements after a post-positive result screen while waiting for diagnostic results. Treatment is also reasonable in terms of cost and is low risk to a child until the confirmatory test is back.
- Treatment is available but concerns around a delay in timely intervention.
- The utility and effectiveness of screening tests are also dependent on the plan for positive tests. Without a clinically relevant and timely action plan, criterion 2 is not met.

3. Prevention Potential and Medical Rationale



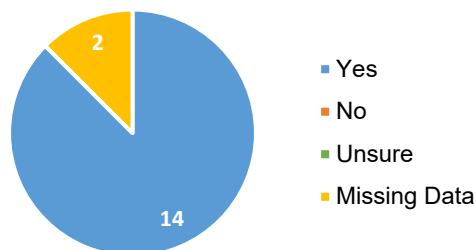
- Most infants will become symptomatic and clinically identified after 3 months of age. The best outcomes were for babies who were treated at birth. Therefore, the preventative potential and rationale require an expedited follow-up plan.
- Early detection mitigates or prevents severe long-term consequences of the disease.
- Clinical decision-making can occur for initiating treatment while waiting for diagnosis between care teams.
- Not sure if this is met. However, the harms may be moderate versus severe, and so this still meets the criterion.

4. Public Health Rationale



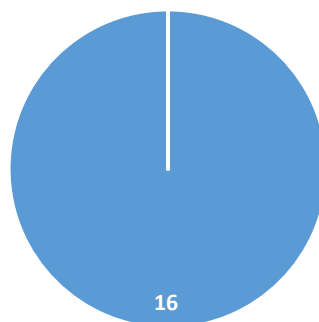
- The at-risk population will likely not be known unless the family already has one affected child.
- Screening based on symptoms alone delays diagnosis and is associated with worse outcomes because long-term consequences may persist even with treatment.
- Early universal screening minimizes risk for life-long disabilities and is equitable.
- Even though GAMT is a rare disease, population-based screening is important to prevent late-onset clinical diagnosis, associated with severe/moderate developmental delays and increased healthcare costs.

5. Cost Benefit / Cost Effectiveness



- Is the loss of productivity from the parents/family members/caretakers considered? Family members also have additional costs and losses. Family members often lose days of work and have additional therapy and medical needs.
- The emotional impact of false positives can be daunting.
- Cheap test. Highly sensitive and specific. No new technology required. Positive cost/benefit ratio.
- Cost-benefit analysis supports universal testing

## Overall Recommendation



- Recommend
- Do Not Recommend
- Not at This Time
- No Recommendation

Recommendation Options	Comments and Major Themes
<p>1. I recommend the Board add GAMT Deficiency to the list of conditions for which all Washington-born newborns must be screened.</p>	<ul style="list-style-type: none"> <li>• Screening is available and cost-effective, and there's treatment available.</li> <li>• Early universal screening identifies patients before the onset of symptoms, optimizes outcomes, and minimizes long-term disabilities.</li> <li>• Recommend adding GAMT, if there are concrete plans that will be clearly communicated to families and healthcare providers for the next steps and timelines before this test goes live. The primary care clinic's experience with Pompe Disease being added to the NBS and false positive results was traumatic. Families can never have that experience back when the joy of a healthy newborn birth is derailed by potentially serious medical diagnosis with long wait times for confirmatory results.</li> <li>• This has been thoroughly reviewed and recommended by the ACHDNC for the RUSP. Since so many children with GAMT fly under the radar without consistent early symptoms, many are diagnosed with Autism or Cerebral Palsy. They could</li> </ul>

	have been treated. Time is of the essence. The later a diagnosis is given, the more severe impact on the quality of life.
2. I do not recommend the Board add GAMT Deficiency to the list of conditions for which all Washington-born newborns must be screened.	<i>No comments.</i>
3. At this time, I do not recommend the Board add GAMT Deficiency to the list of conditions for which all Washington-born newborns must be screened; I recommend the Board revisit GAMT Deficiency at a future date.	<i>No comments.</i>

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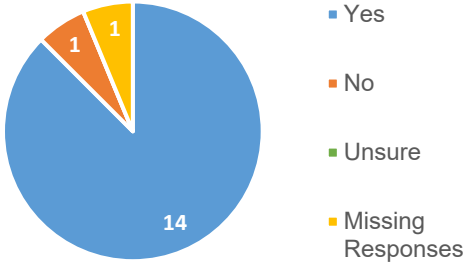
# WASHINGTON STATE BOARD OF HEALTH

## Newborn Screening Technical Advisory Committee: Guanidinoacetate methyltransferase (GAMT) and Arginase 1 Deficiency (ARG1-D)

### ARG1-D Voting Summaries and Comments

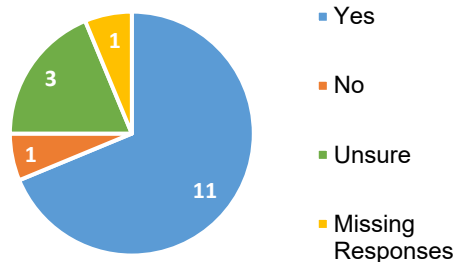
The following is a compilation of comments from technical advisory committee (TAC) members provided when voting on each individual criteria, and an overall recommendation for GAMT Deficiency. Comments have been summarized and are organized by each criterion, and then overall comments are provided.

#### Criteria Evaluation

Criteria	Comments and Major Themes										
<p>1. Available Screening Technology</p>  <table border="1"> <caption>Voting Results for Available Screening Technology</caption> <thead> <tr> <th>Response</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>Yes</td> <td>14</td> </tr> <tr> <td>No</td> <td>1</td> </tr> <tr> <td>Unsure</td> <td>0</td> </tr> <tr> <td>Missing Responses</td> <td>1</td> </tr> </tbody> </table>	Response	Count	Yes	14	No	1	Unsure	0	Missing Responses	1	<ul style="list-style-type: none"> <li>• Testing is already available in Washington State (WA runs the ARG1-D screening test for Idaho babies).</li> <li>• Concern for families that receive a false positive diagnosis - this is very traumatic and significantly changes the family dynamic.</li> </ul>
Response	Count										
Yes	14										
No	1										
Unsure	0										
Missing Responses	1										

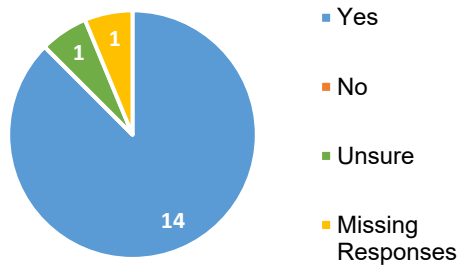
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### 2. Diagnostic Testing and Treatment Available



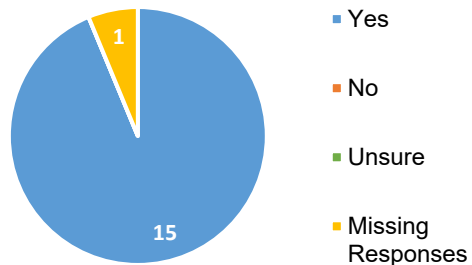
- Accurate diagnostic testing is available.
- Treatment options are not curative but can improve outcomes.
- Question the word "effective" treatment – yes, there is treatment available to improve symptoms but not prevent all symptoms.
- Medical expertise is available across the state.
- Although not mentioned previously, medical geneticists are also available in Spokane at Sacred Heart Children’s Hospital for the care of families in Eastern WA.

### 3. Prevention Potential and Medical Rationale



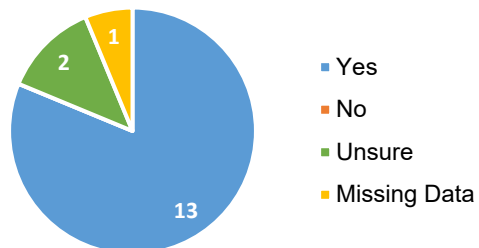
- Makes a difference, even if only for a small number of individuals.
- Children may be asymptomatic within the first year, but I still believe this condition fits the criteria.
- Small case reports of treatment from birth to outcomes at six years old.

4. Public Health Rationale



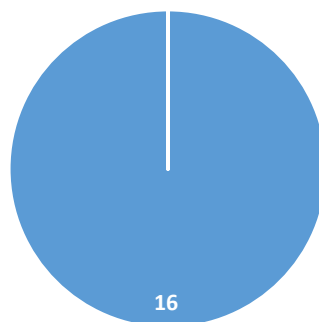
- Infants remaining asymptomatic for the first few years until a certain threshold of arginase is reached makes this a good condition for newborn screening.
- Because of the delays in diagnosis for this condition, newborn screening ensures that treatment occurs early.

5. Cost Benefit / Cost Effectiveness



*No comments.*

## Overall Recommendation



- Recommend
- Do Not Recommend
- Not at This Time
- No Recommendation

Recommendation Options	Comments and Major Themes
1. I recommend the Board add GAMT Deficiency to the list of conditions for which all Washington-born newborns must be screened.	<ul style="list-style-type: none"> <li>Washington should be aligned with the majority of states that already provide this screening.</li> <li>The biggest concern around adding ARG1-D to the state NBS is that treatment is only partially efficacious. However, the benefits of partial treatment are still tangible, as is improvement in access to diagnostics.</li> </ul>
2. I do not recommend the Board add GAMT Deficiency to the list of conditions for which all Washington-born newborns must be screened.	<i>No comments.</i>

<p>3. At this time, I do not recommend the Board add GAMT Deficiency to the list of conditions for which all Washington-born newborns must be screened; I recommend the Board revisit GAMT Deficiency at a future date.</p>	<p><i>No comments.</i></p>
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# **Washington State Board of Health**

**PROCESS TO EVALUATE CONDITIONS FOR INCLUSION IN THE  
REQUIRED NEWBORN SCREENING PANEL**

The Washington State Board of Health has the duty under RCW 70.83.050 to define and adopt rules for screening Washington-born infants for heritable conditions. Chapter 246-650-020 WAC lists conditions for which all newborns must be screened. Members of the public, staff at Department of Health, and/or Board members can request that the Board review a particular condition for possible inclusion in the NBS panel. In order to determine which conditions to include in the newborn screening panel, the Board convenes an advisory committee to evaluate candidate conditions using guiding principles and an established set of criteria.

The following is a description of the Qualifying Assumption, Guiding Principles, and Criteria which the Board has approved in order to evaluate conditions for possible inclusion in the newborn screening panel. The Washington State Board of Health and Department of Health apply the qualifying assumption. The Board appointed Advisory Committee applies the following three guiding principles and evaluates the five criteria in order to make recommendations to the Board on which condition(s) to include in the state's required NBS panel.

## QUALIFYING ASSUMPTION

Before an advisory committee is convened to review a candidate condition against the Board's five newborn screening requirements, a preliminary review should be done to determine whether there is sufficient scientific evidence available to apply the criteria for inclusion.

## THREE GUIDING PRINCIPLES

**Three guiding principles govern all aspects of the evaluation of a candidate condition for possible inclusion in the NBS panel.**

- Decision to add a screening test should be driven by evidence. For example, test reliability and available treatment have been scientifically evaluated, and those treatments can improve health outcomes for affected children.
- All children who screen positive should have reasonable access to diagnostic and treatment services.
- Benefits of screening for the disease/condition should outweigh harm to families, children and society.

## CRITERIA

- 1. Available Screening Technology:** Sensitive, specific and timely tests are available that can be adapted to mass screening.
- 2. Diagnostic Testing and Treatment Available:** Accurate diagnostic tests, medical expertise, and effective treatment are available for evaluation and care of all infants identified with the condition.
- 3. Prevention Potential and Medical Rationale:** The newborn identification of the condition allows early diagnosis and intervention.  
Important considerations:
  - There is sufficient time between birth and onset of irreversible harm to allow for diagnosis and intervention.
  - The benefits of detecting and treating early onset forms of the condition (within one year of life) balance the impact of detecting late onset forms of the condition.
  - Newborn screening is not appropriate for conditions that only present in adulthood.
- 4. Public Health Rationale:** Nature of the condition justifies population-based screening rather than risk-based screening or other approaches.
- 5. Cost-benefit/Cost-effectiveness:** The outcomes outweigh the costs of screening. All outcomes, both positive and negative, need to be considered in the analysis. Important considerations to be included in economic analyses include:
  - The prevalence of the condition among newborns.
  - The positive and negative predictive values of the screening and diagnostic tests.
  - Variability of clinical presentation by those who have the condition.
  - The impact of ambiguous results. For example the emotional and economic impact on the family and medical system.
  - Adverse effects or unintended consequences of screening.



WASHINGTON STATE   
**BOARD** OF **HEALTH**

## **RCW 70.83.020**

### **Screening tests of newborn infants.**

(1) It shall be the duty of the department of health to require screening tests of all newborn infants born in any setting. Each hospital or health care provider attending a birth outside of a hospital shall collect and submit a sample blood specimen for all newborns no more than forty-eight hours following birth. The department of health shall conduct screening tests of samples for the detection of phenylketonuria and other heritable or metabolic disorders leading to intellectual disabilities or physical defects as defined by the state board of health: PROVIDED, That no such tests shall be given to any newborn infant whose parents or guardian object thereto on the grounds that such tests conflict with their religious tenets and practices.

(2) The sample required in subsection (1) of this section must be received by the department [of health] within seventy-two hours of the collection of the sample, excluding any day that the Washington state public health laboratory is closed.

[ [2014 c 18 § 1](#); [2010 c 94 § 18](#); [1991 c 3 § 348](#); 1975-'76 2nd ex.s. c 27 § 1; [1967 c 82 § 2](#).]

## **RCW 70.83.030**

### **Report of positive test to department of health.**

Laboratories, attending physicians, hospital administrators, or other persons performing or requesting the performance of tests for phenylketonuria shall report to the department of health all positive tests. The state board of health by rule shall, when it deems appropriate, require that positive tests for other heritable and metabolic disorders covered by this chapter be reported to the state department of health by such persons or agencies requesting or performing such tests.

[ [1991 c 3 § 349](#); [1979 c 141 § 113](#); [1967 c 82 § 3](#).]

## **RCW 70.83.050**

### **Rules and regulations to be adopted by state board of health.**

The state board of health shall adopt rules and regulations necessary to carry out the intent of this chapter.

[ [1967 c 82 § 5](#).]

# WASHINGTON STATE BOARD OF HEALTH

**Date:** October 9, 2023

**To:** Washington State Board of Health Members

**From:** Keith Grellner, Chair

**Subject:** Rules Briefing—On-Site Sewage Systems, Chapter 246-272A WAC

## Background and Summary:

Under RCW 43.20.050, the State Board of Health (Board) has rulemaking authority for on-site sewage systems with design flows less than three thousand five hundred gallons per day. The Board's rules for On-site Sewage Systems, chapter 246-272A WAC, set comprehensive standards for the siting, design, installation, use, care, and management of these small on-site sewage systems. The Washington Department of Health (Department) and local health jurisdictions jointly administer the rules.

WAC 246-272A-0425 requires the Department to review the rules every four years and report recommendations to the Board and local health officers. The Department last reported on the rules to the Board in January 2018, recommending that the Board initiate rulemaking to update the rules. The Board endorsed the recommendation to initiate rulemaking and filed a CR-101, Preproposal Statement of Inquiry, on March 6, 2018, as WSR 18-06-082. The Department last updated the Board on this rulemaking project in January 2023.

Jeremy Simmons, Manager of the Department's On-Site Wastewater Management Program, will give a formal briefing to the Board on this important rulemaking, providing background on the issues and rules, an overview of the rulemaking process, highlights of key revisions in the final draft rules, and anticipated next steps in the remaining phases of this rulemaking.

This informational briefing involves no Board action. We are planning to file the CR-102, Proposed Rulemaking, in October for public review and comment. A public hearing on the proposed rules is tentatively scheduled for the Board's meeting on January 10, 2024.

## Staff

Stuart Glasoe

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[wsboh@sboh.wa.gov](mailto:wsboh@sboh.wa.gov). TTY users can dial 711.

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REVISION OF CHAPTER 246-272A WAC  
State Board of Health Briefing  
October 2023

# Presenter

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**Jeremy Simmons**  
*Manager*

Wastewater Management Section  
Division of Environmental Public Health  
Office of Environmental Health and Safety

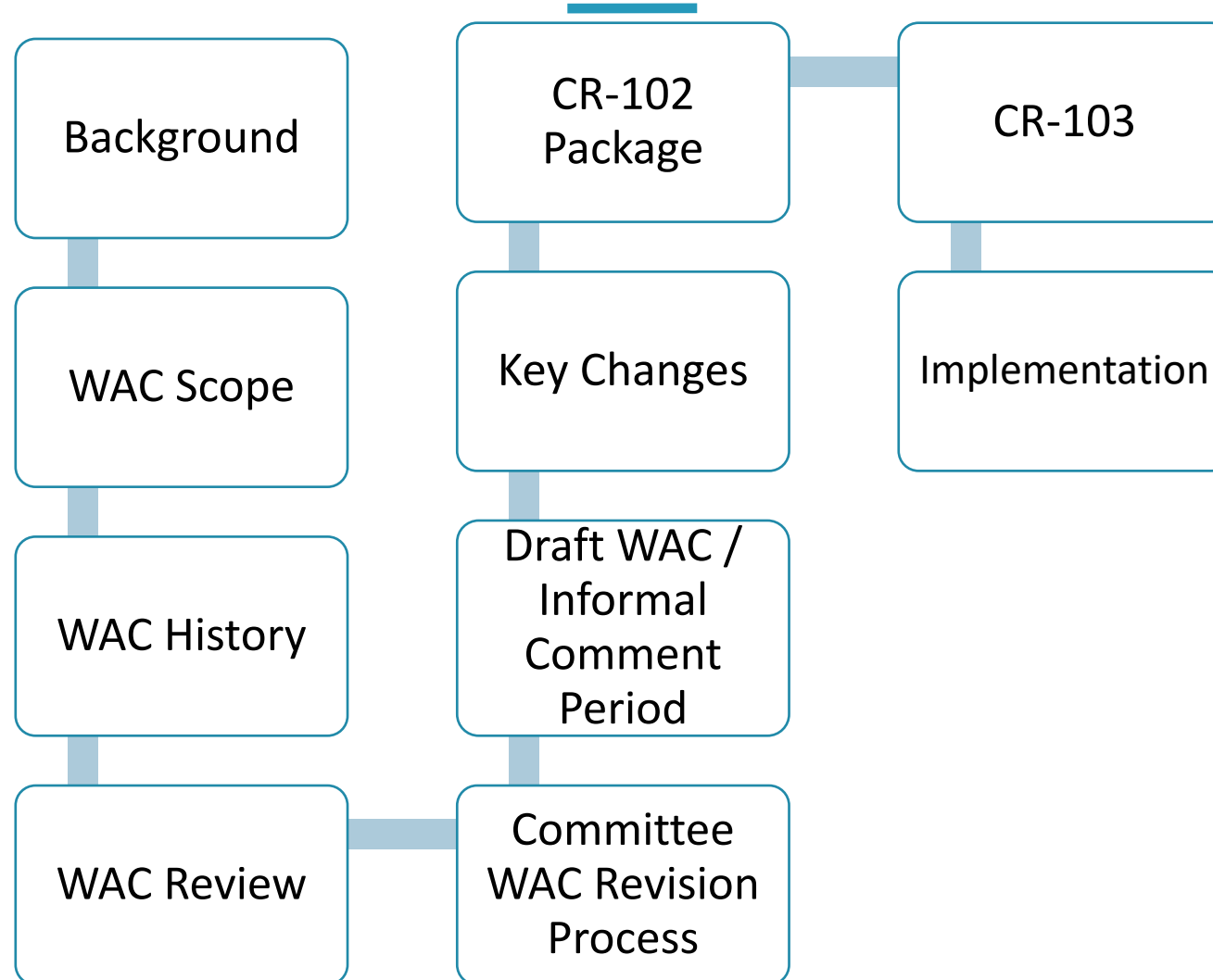
[Jeremy.Simmons@doh.wa.gov](mailto:Jeremy.Simmons@doh.wa.gov)

www.doh.wa.gov



@WADeptHealth

# Presentation Outline

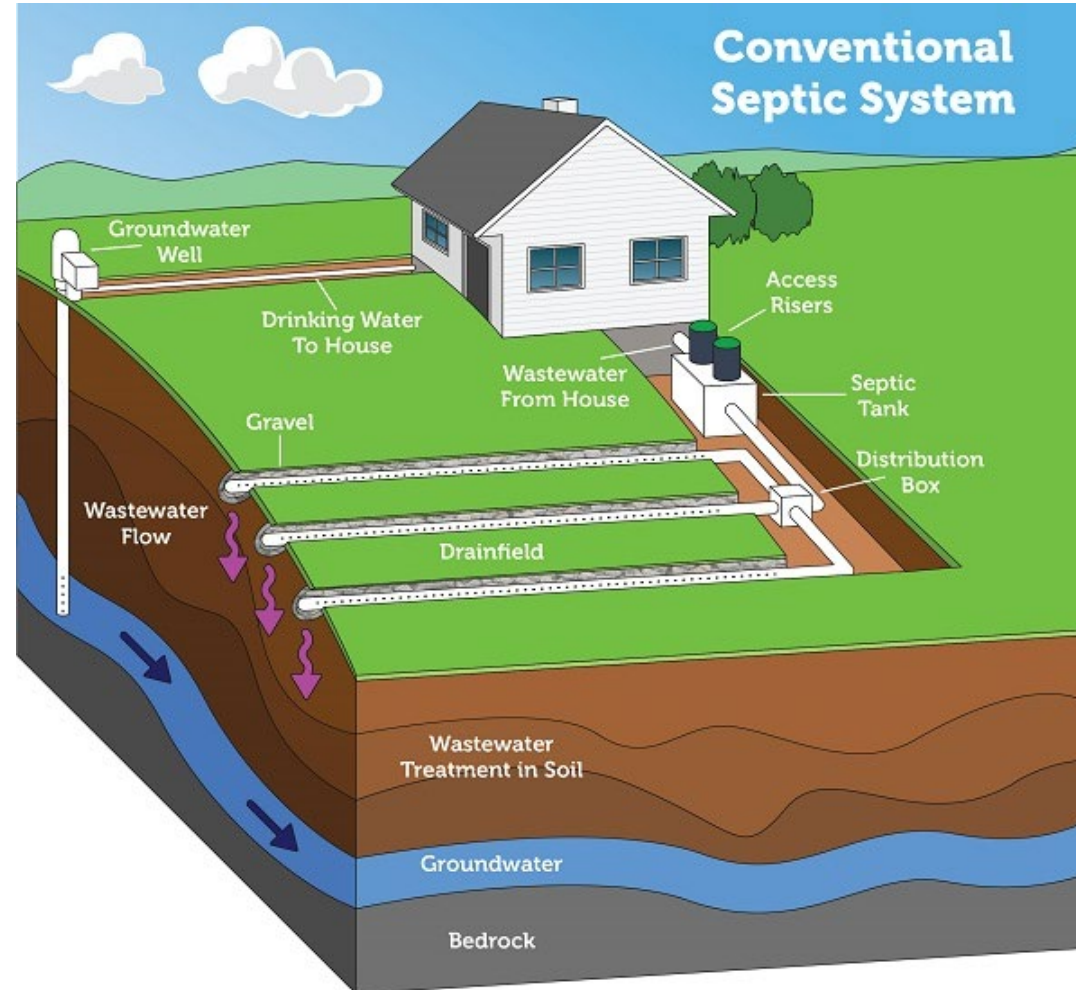


# Acronyms

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- LHJ = Local Health Jurisdiction
- LHO = Local Health Officer
- LMP = Local Management Plan
- OSS = On-site Sewage System

# On-site Sewage System (OSS)

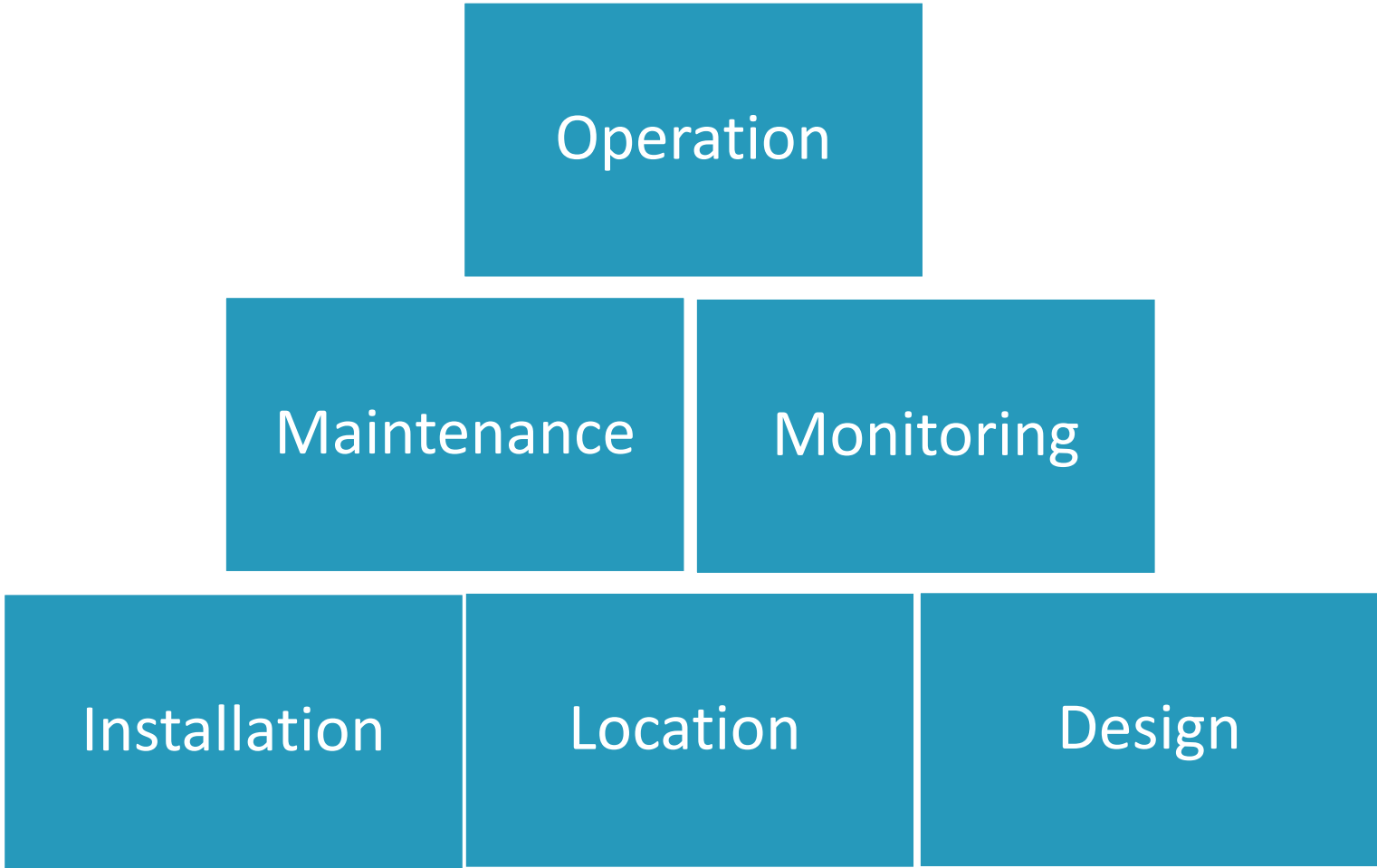


Please note: Septic systems vary. Diagram is not to scale.

[Types of Septic Systems | US EPA](#)

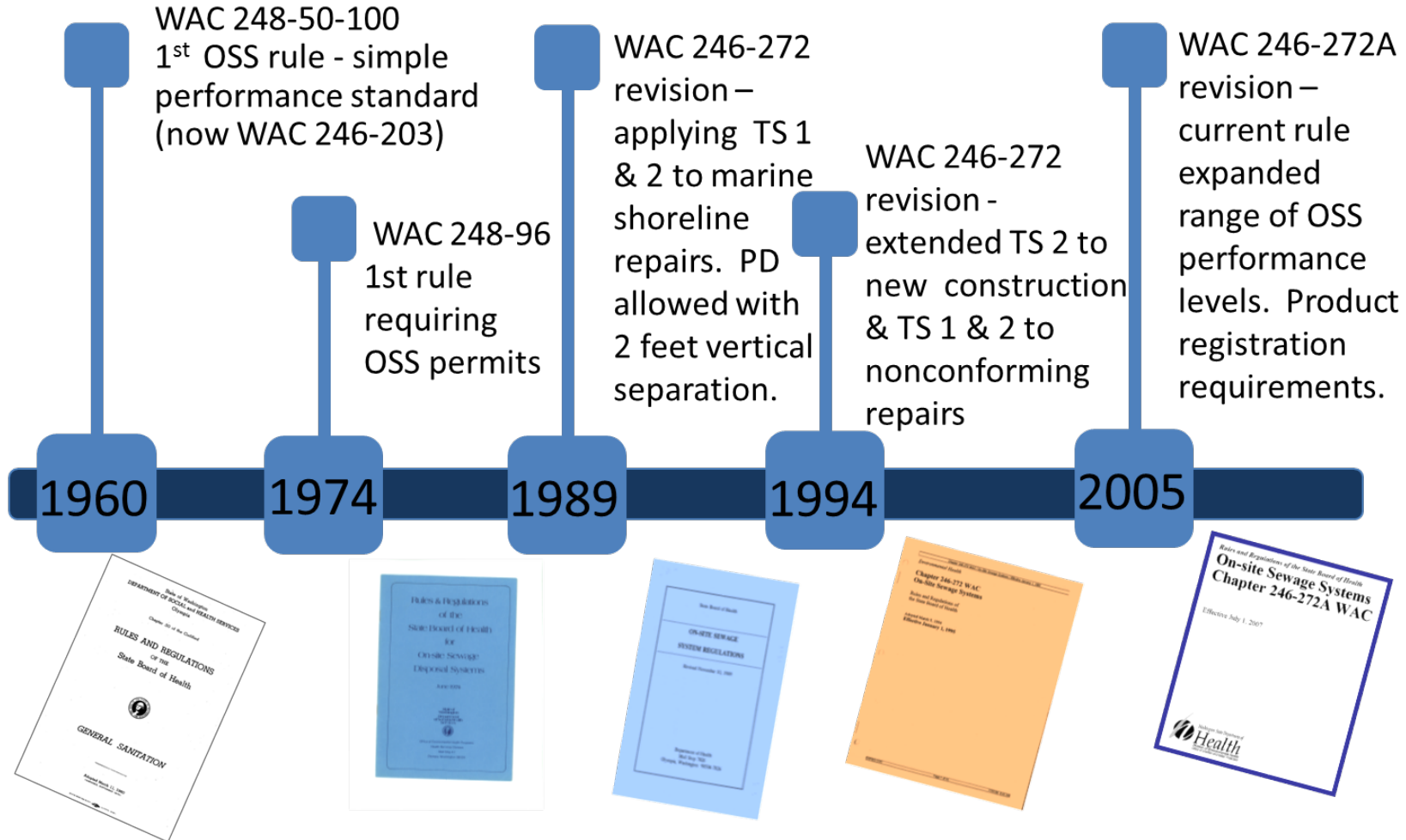


# Chapter 246-272A WAC Regulates On-site Sewage Systems



# Chapter 246-272A WAC History

P.H.E No. 1  
No permit  
requirement  
Guidance



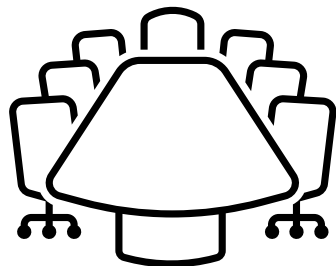
# Chapter 246-272A WAC Review

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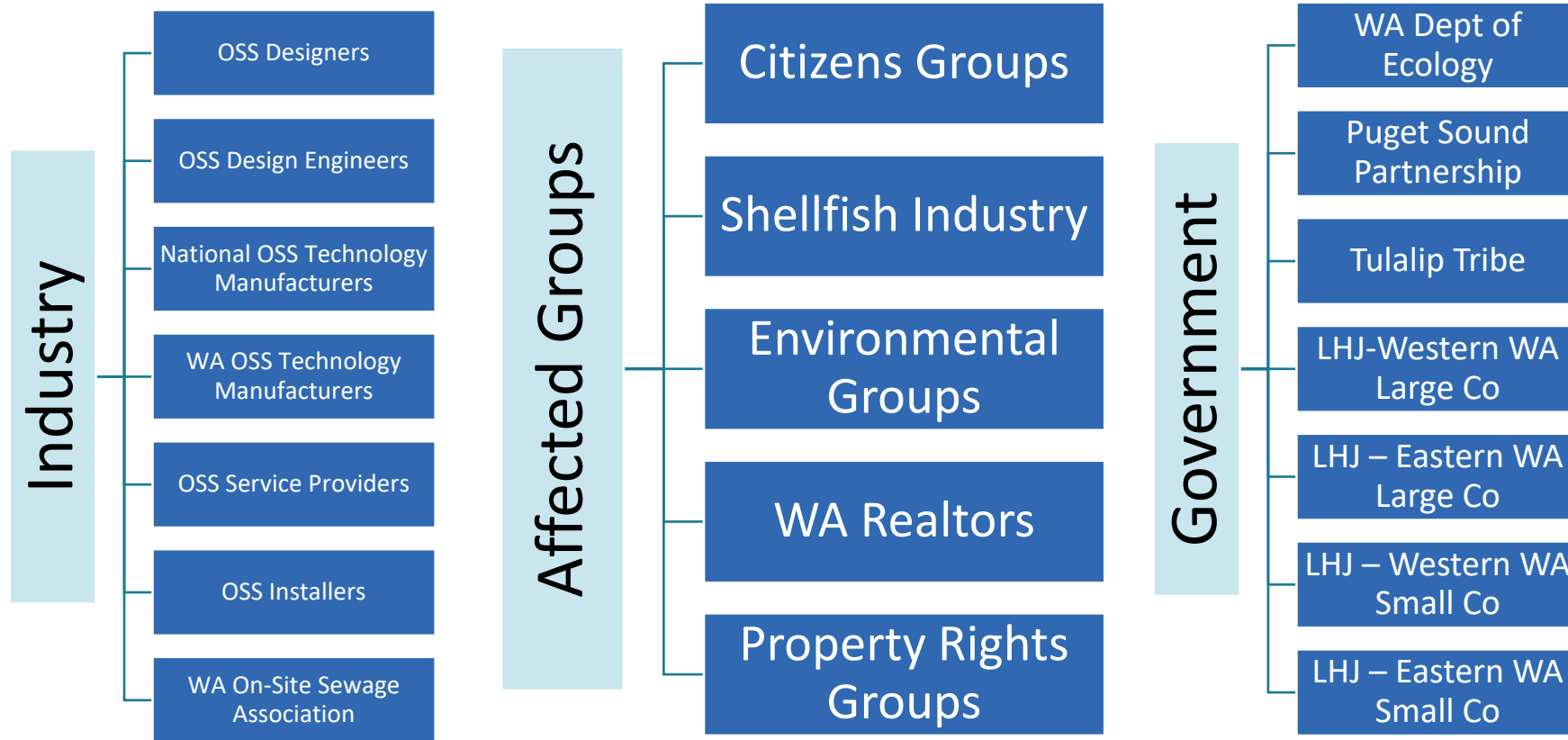
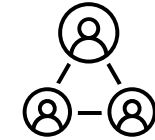
WAC 246-272A-0425 requires DOH to:

- Evaluate the effectiveness of the rule every four years.
- Determine if revisions are needed.
- Report recommendations to the state board of health and local health officers.
- The rule was reviewed in 2009 and 2013, with the finding that no revisions were needed.
- In 2017 the review concluded with the finding that revisions were needed.

# Committee Revision Drafting Process



# Who was on the Revision Committee?



- ✓ DOH facilitated and participated in conversations
- ✓ SBOH Staff attended and provided input on many meetings

All Rectangles =  
Voting Members

# Legislation

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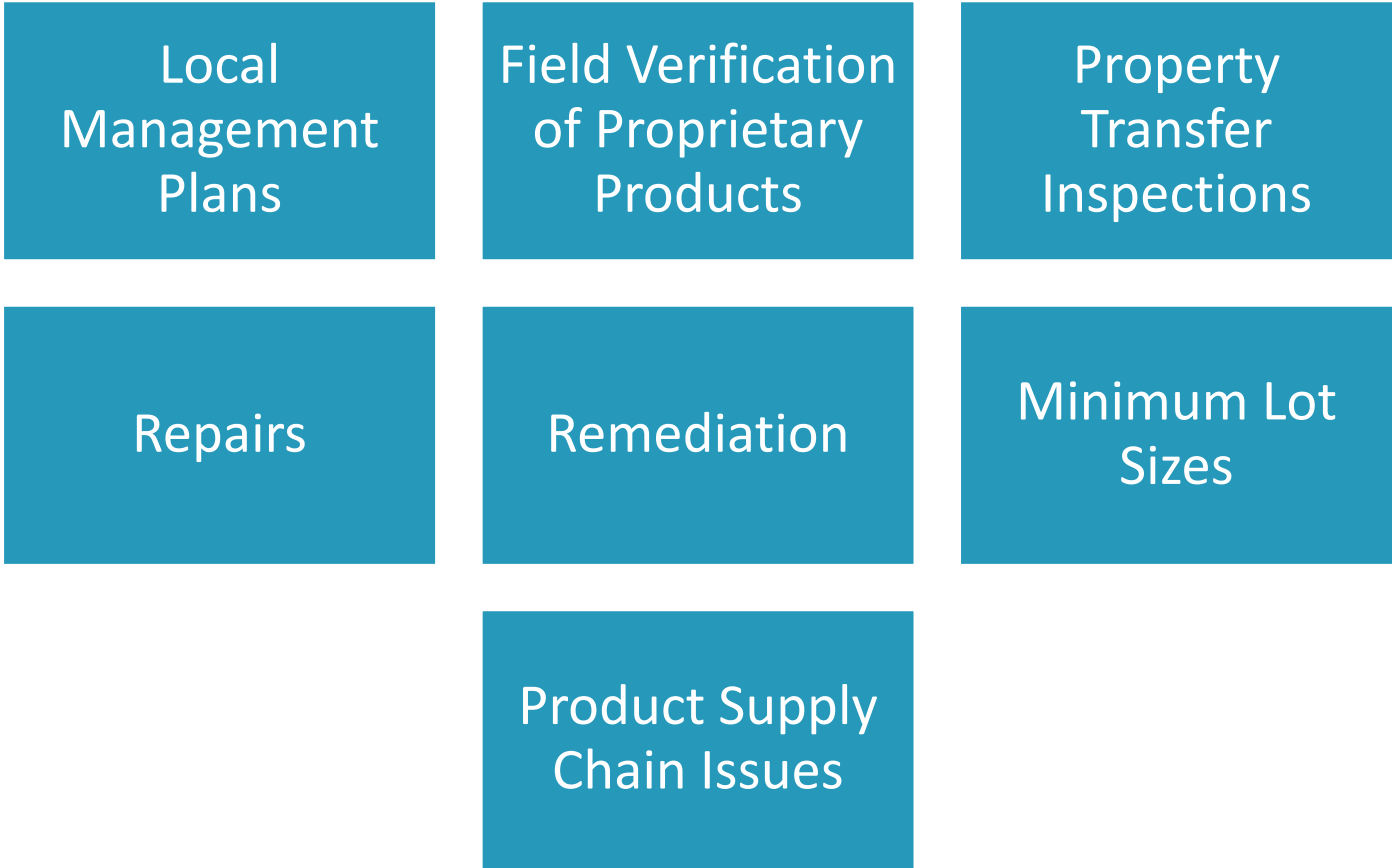
- In 2018, Substitute Senate Bill (SSB) 5503 Passed
- SSB 5503 addressed
  - Repairs/Failure
  - Inspection Access and Notification
  - Easements
- SSB 5503 became RCW 43.20.065
  - Two important new requirements
    1. Give first priority to allowing repair and second priority to allowing replacement of an existing conventional OSS, consisting of a septic tank and drainfield, with a similar conventional system.
    2. Allow a system to be repaired using the least expensive alternative that meets standards and is likely to provide comparable or better long-term sewage treatment and effluent dispersal outcomes.

# August – October 2019 Informal Comment Period

157 Comments	Trending Topics
<ul style="list-style-type: none"><li>• OSS Designers</li><li>• Department of Ecology</li><li>• Elected Officials</li><li>• Environmental Advocates</li><li>• LHJ Partners</li><li>• Manufacturers</li><li>• Realtors</li></ul>	<ul style="list-style-type: none"><li>• Local Management Plan Updates</li><li>• Property Transfer Inspections</li><li>• Remediation</li><li>• Minimum Land Area</li></ul>

# Key Changes in Draft Rule

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# Current Requirements Local Management Plans (LMP) Puget Sound Counties

Currently, Puget Sound LMPs must specify how the LHJ will:

- Find and inventory OSS.
- Identify areas where OSS could pose increased risk.
- Identify operation, maintenance, and monitoring requirements for OSS within increased risk areas.
- Educate homeowners on their responsibilities.
- Remind homeowners to complete routine inspections.

# Revisions to LMP Requirements Puget Sound Counties

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LMPs must include everything previously required and, in addition must:

- Be reviewed every 5 years by LHJ and DOH and be revised as needed.
- Include in the list of areas to consider where OSS may pose increased risk:
  - Areas where phosphorus is a contaminant of concern; and
  - Areas where sea level rise may impact horizontal separations to surface water.
- Include a summary of program expenditures by activity and fund source and a strategy to fill any funding gaps.
- Report OSS inventory numbers to DOH.

# Local Management Plans Non-Puget Sound Counties

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Currently, Non-Puget Sound LMPs must describe:

- How the LHJ will remind and encourage homeowners to complete routine inspections.
- The capacity of the LHJ to provide education and operational and maintenance information.
- The capacity of the LHJ to fund the OSS plan.

**The revisions propose no changes to the Non-Puget Sound LMPs.**

# Field Verification of Proprietary Treatment Products

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Manufacturers must:

- Collect and analyze field samples from each proprietary product which disinfects bacteria or treats nitrogen.
- Report the results to the department.

Requirements:

- Mean of sample results must meet the treatment level that the product is registered.
- Registration for products that do not meet the treatment level they are registered at may be adjusted or rescinded .

# Property Transfer Inspections (PTIs)

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- All OSS must be inspected preceding a property transfer inspection, beginning two years after effective date of rule
- Local Health Officer (LHO) may:
  - Remove the requirement for the inspection if OSS is in compliance with routine inspection requirements in WAC 246-272A-0280(1)(e)
  - Verify the results of the inspection
  - Require additional inspections and requirements
  - Require a compliance schedule for failures discovered during PTIs

# Repairs

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Incorporated requirements from **RCW 43.20.065**, including:

- Priority is given to allowing a repair or replacement of a conventional OSS, consisting of a septic tank and drainfield, with a similar conventional OSS that complies with standards and provides comparable long-term treatment;
- Allowing repairs using the least expensive alternative that meets standards; and
- LHO not impose or allow the imposition of more stringent performance requirements of equivalent OSS on private entities than public entities.

## Repairs Continued

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- New definition for Minor Repair to clarify that permits aren't needed for many repairs.
- LHO must evaluate all unpermitted discharges to determine if they pose a public health threat. If determined to be a public health threat the LHO shall require a compliance schedule.
- LHO must report failures within 200 feet of shellfish growing areas to the department.

# Remediation

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- Option that LHO may develop a remediation policy.
- Remediation must not:
  - Result in damage to the OSS;
  - Result in insufficient soil treatment in the zone between the soil dispersal component and the highest seasonal water table, restrictive layer, or soil type seven; or
  - Disturb the soil in or below the soil dispersal component if the vertical separation requirements of WAC 246- 272A-0230 are not met.
- Department must maintain a guidance document on remediation.
- Closes a 2006 CR-101 on remediation.



## Minimum Lot Size and Land Area

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- Minimum lot sizes increased by between 500 and 1,000 sq. ft. for new developments with public water supplies.
- New minimum usable land area requirement for new developments using OSS.
- New nitrogen-based methodology for development on smaller lots that do not meet minimum lot size requirements.
- Added clarifying language that LHOs may permit an OSS on a preexisting lot of record that does not meet current minimum land area requirements only if it meets all requirements of chapter 246-272A WAC without the use of a waiver.

# Product Supply Chain Issues

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- Allow repairs of proprietary products with components that the product was not tested and registered with.
- Requires Engineer to attest that repairs will not impact performance or maintenance.
- Only necessary retrofits allowed.

# Cost Survey and Significant Analysis

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- DOH conducted surveys on estimated costs to implement the proposed rule:
  - All LHJs
  - All Professional Engineers in Washington
  - All Onsite Sewage System Designers
  - All known manufacturers
  - Hundreds of Installers, Service Providers, and Pumpers
- DOH analyzed this data and developed:
  - Significant Analysis
  - Small Business Economic Impact Statement

## What's Next?

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- October 2023: Board Briefing
- October 2023: File CR102 (proposed rule)
- January 2024: Hold public hearing
- February 2024: File CR103
- Spring 2024: Begin training partners on rule's new requirements
- Staggered effective dates:
- Effective Immediately: product supply chain Issues
- January 2025: most new requirements
- January 2027: property transfer inspection requirement
- 2027: Next rule review due

Questions?

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AMENDATORY SECTION (Amending WSR 05-15-119, filed 7/18/05, effective 9/15/05)

**WAC 246-272A-0001 Purpose, objectives, and authority.** (1) The purpose of this chapter is to protect the public health by minimizing:

(a) The potential for public exposure to sewage from on-site sewage systems (OSS); and

(b) Adverse effects to public health that discharges from (~~on-site sewage systems~~) OSS may have on ground and surface waters.

(2) This chapter regulates the location, design, installation, operation, maintenance, and monitoring of (~~on-site sewage systems~~) OSS to:

(a) Achieve effective long-term sewage treatment and effluent dispersal; and

(b) Limit the discharge of contaminants to waters of the state.

(3) The state board of health is authorized under RCW 43.20.050 to establish minimum requirements for the department of health and local boards of health, and consistent with RCW 43.70.310 integrating the preservation of public health with protection of the environment in order to endorse policies in common.

(4) This chapter is intended to coordinate with other applicable statutes and rules for the design of (~~on-site sewage systems~~) OSS under chapter 18.210 RCW and chapter 196-33 WAC.

(5) This chapter is intended to coordinate with other applicable statutes for land use planning under chapters 36.70 and 36.70A RCW, and the statutes for subdivision of land under chapter 58.17 RCW.

(6) The local health officer may designate low-lying marine shorelines in their jurisdiction.

AMENDATORY SECTION (Amending WSR 05-15-119, filed 7/18/05, effective 9/15/05)

**WAC 246-272A-0005 Administration.** The local health officers and the department shall administer this chapter under the authority and requirements of chapters 70.05, 70.08, (~~(70.118,)~~) 70.46, 70A.105, 70A.110, and 43.70 RCW. RCW 70.05.060(7) authorizes local health officers to charge fees for the administration of this chapter.

NEW SECTION

**WAC 246-272A-0007 Applicability.** (1) The local health officer:

(a) Shall apply this chapter to OSS for treatment, siting, design, installation, and operation and maintenance measures treating sewage and dispersing effluent from residential sources with design flows up to 3,500 gallons per day;

(b) May apply this chapter to OSS for nonresidential sources of sewage if treatment, siting, design, installation, and operation and maintenance measures provide treatment and effluent dispersal equal to that required of residential sources;

(c) May not apply this chapter to industrial wastewater.

(2) The department shall apply the requirements of this chapter for the registration of proprietary treatment and distribution products.

(3) A valid OSS design approval, or installation permit issued prior to the effective date of these rules:

(a) Shall be acted upon in accordance with the requirements of this chapter in force at the time of issuance;

(b) Remains valid for a period of not more than five years from the date of approval or issuance, or remains valid for an additional year beyond the effective date of this chapter, whichever has the most lenient expiration date; and

(c) May be modified to include additional requirements if the health officer determines that a serious threat to public health exists.

(4) This chapter does not apply to facilities regulated as reclaimed water use under chapters 90.46 RCW and 173-219 WAC.

AMENDATORY SECTION (Amending WSR 05-15-119, filed 7/18/05, effective 9/15/05)

**WAC 246-272A-0010 Definitions.** (~~((1) Acronyms used in this chapter:~~

~~"ANSI" means American National Standards Institute.~~

~~"BOD" means biochemical oxygen demand, typically expressed in mg/L.~~

~~"CBOD<sub>5</sub>" means carbonaceous biochemical oxygen demand, typically expressed in mg/L.~~

~~"FC" means fecal coliform, typically expressed in number colonies/100 ml.~~

~~"LOSS" means a large on-site sewage system (see chapter 246-272B WAC).~~

~~"NSF" means National Sanitation Foundation International.~~

~~"O&G" (formerly referred to as FOG) means oil and grease, a component of sewage typically originating from food stuffs (animal fats or vegetable oils) or consisting of compounds of alcohol or glycerol with fatty acids (soaps and lotions). Typically expressed in mg/L.~~

~~"OSS" means on-site sewage system.~~

~~"RS&G" means recommended standards and guidance.~~

~~"SSAS" means a subsurface soil absorption system.~~

~~"TAC" means the technical advisory committee established in WAC 247-272A-0400.~~

~~"TN" means total nitrogen, typically expressed in mg/L.~~

~~"TSS" means total suspended solids, a measure of all suspended solids in a liquid, typically expressed in mg/L.~~

~~"USEPA" means United States Environmental Protection Agency.~~

~~(2) Definitions used in this chapter:))~~

The definitions used in this section apply throughout this chapter unless the context clearly indicates otherwise:

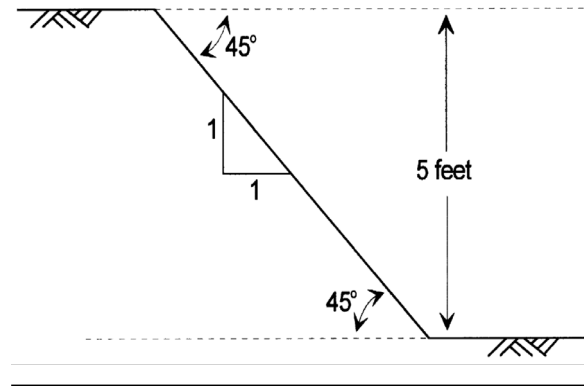
(1) "Additive" means a commercial product added to an ((on-site sewage system)) OSS intended to affect the performance or aesthetics of an ((on-site sewage system)) OSS.

(2) "ANSI" means American National Standards Institute.



(3) "Approved" means a written statement of acceptability issued by the local health officer or the department.

(4) "Bank" means any naturally occurring slope greater than 100 percent (45 degrees) and extending vertically at least five feet from the toe of the slope to the top of the slope as follows:



(5) "Bed" means a soil dispersal component consisting of an excavation with a width greater than three feet.

(6) "Black water" means any waste from toilets or urinals.

(7) "BOD" means biochemical oxygen demand, typically expressed in mg/L.

(8) "Building drain" means that part of the lowest piping of a building's drainage system that receives the discharge of sewage from pipes inside the walls of the building and conveys it to the building sewer beginning two feet outside the building wall.

(9) "Building sewer" means that part of the horizontal piping of a drainage system extending from the building drain, which collects sewage from all the drainage pipes inside a building, to an (~~on-site sewage system~~) OSS. It begins two feet outside the building wall and conveys sewage from the building drain to the (~~remaining portions of the on-site sewage system~~) OSS.

(10) "CBOD<sub>5</sub>" means carbonaceous biochemical oxygen demand, typically expressed in mg/L.

(11) "Cesspool" means a pit receiving untreated sewage and allowing the liquid to seep into the surrounding soil or rock.

(12) "Conforming system" means any (~~on-site sewage system~~) OSS or component, meeting any of the following criteria:

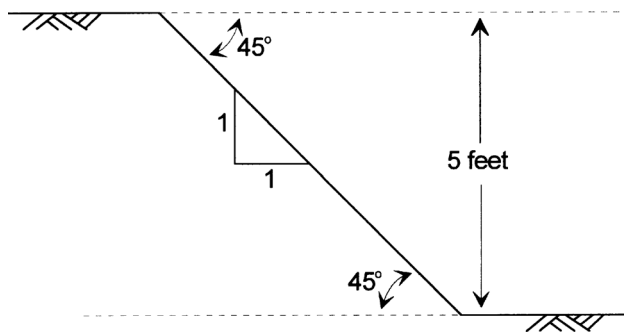
(a) In full compliance with new construction requirements under this chapter; or

(b) Approved, installed and operating in accordance with requirements of previous editions of this chapter; or

(c) Permitted by the waiver process under WAC 246-272A-0420 (~~that assures public health protection by higher treatment performance or other methods~~).

(13) "Cover material" means soil placed over a soil dispersal component composed predominately of mineral material with no greater than (~~ten~~) 10 percent organic content. Cover material may contain an organic surface layer for establishing a vegetative landscape to reduce soil erosion.

(14) "Cuts (~~and/or banks~~)" means any (~~naturally occurring or~~) artificially formed slope greater than (~~one hundred~~) 100 percent (~~(forty-five)~~) 45 degrees) and extending vertically at least five feet from the toe of the slope to the top of the slope as follows:



(15) "Department" means the Washington state department of health.

(16) "Designer" means a person who matches site and soil characteristics with appropriate on-site sewage technology. Throughout this chapter this term applies to both (~~on-site sewage treatment system~~) OSS designers licensed under chapter 18.210 RCW and professional engineers licensed under chapter 18.43 RCW.

(17) "Design flow" means the maximum volume of sewage a residence, structure, or other facility is estimated to generate in a (~~twenty-four-hour~~) 24-hour period. It incorporates both an operating capacity and a surge capacity for the (~~system~~) OSS during periodic heavy use events. The sizing and design of the (~~on-site sewage system~~) OSS components are based on the design flow.

(18) "Development" means the creation of a residence, structure, facility, subdivision, site, area, or similar activity resulting in the production of sewage.

(19) "Disinfection" means the process of destroying pathogenic microorganisms in sewage through the application of ultraviolet light, chlorination, or ozonation.

(20) "Distribution technology" means any arrangement of equipment (~~and/or~~) or materials that distributes sewage within an (~~on-site sewage system~~) OSS.

(21) "DL" means disinfection level.

(~~"Drain field" see subsurface soil absorption system (SSAS) and soil dispersal component.~~)

(22) "Drainrock" means clean washed gravel or crushed rock ranging in size from three-quarters inch to two and one-half inches (~~(7)~~) and containing no more than two percent by weight passing a US No. 8 sieve and no more than one percent by weight passing a US No. 200 sieve.

(23) "DS&G" means department standards and guidance.

(24) "*E. coli*" means *Escherichia coli* bacteria. Counts of these organisms are typically used to indicate potential contamination from sewage or to describe a level of needed disinfection, typically expressed as colony forming units/100 ml.

(25) "Effluent" means liquid discharged from a (~~septic~~) sewage tank or other (~~on-site sewage system~~) OSS component.

(26) "EPA" means United States Environmental Protection Agency.

(27) "Expanding clay" means a clay soil with the mineralogy of clay particles, such as those found in the Montmorillonite/Smectite Group, which causes the clay particles to expand when they absorb water, closing the soil pores, and contract when they dry out.

(28) "Expansion" means a change in a residence, facility, site, or use that:

(a) Causes the sewage quantity or quality to exceed the existing design flow of the (~~on-site system~~) OSS, for example, when a resi-

dence is increased from two to three bedrooms or a change in use from an office to a restaurant; or

(b) Reduces the treatment or dispersal capability of the existing (~~on-site sewage system~~) OSS or the reserve area, for example, when a building is placed over a reserve area.

(29) "Extremely gravelly" means soil with (~~sixty~~) 60 percent or more, but less than (~~ninety~~) 90 percent rock fragments by volume.

(30) "Failure" means a condition of an (~~on-site sewage system~~) OSS or component that threatens the public health by inadequately treating sewage or by creating a potential for direct or indirect contact between sewage and the public. Examples of failure include:

(a) Sewage on the surface of the ground;

(b) (~~Sewage~~) Septic backing up into a structure caused by slow soil absorption of septic tank effluent;

(c) Sewage leaking from a sewage tank or collection system;

(d) Cesspools or seepage pits where evidence of groundwater or surface water quality degradation exists;

(e) Inadequately treated effluent contaminating groundwater or surface water; or

(f) Noncompliance with standards stipulated on the permit.

(31) "Fecal coliform" or "FC" means bacteria common to the digestive systems of warm-blooded animals that are cultured in standard tests. Counts of these organisms are typically used to indicate potential contamination from sewage or to describe a level of needed disinfection (~~Generally~~) typically expressed (~~as colonies per~~) in colony forming units/100 ml.

(32) "Fill" means unconsolidated material that:

(a) Meets soil types 1-6 textural criteria and is used as part of a dispersal component;

(b) Is used to change grade or to enhance surface water diversion; or

(c) Is any other human-transported material.

(33) "Flood plain" means an area that is low-lying and adjacent to a stream or river that is covered by water during a flood.

(34) "GPD" means gallons per day.

(35) "Gravelly" means soils with (~~fifteen~~) 15 percent or more, but less than (~~thirty-five~~) 35 percent rock fragments by volume.

(~~"Gray water" means sewage from~~) (36) "Greywater" means sewage from any source in a residence or structure that has not come into contact with toilet or urinal wastes, including bathtubs, showers, bathroom sinks, washing machines, dishwashers, and kitchen sinks. (~~It includes sewage from any source in a residence or structure that has not come into contact with toilet wastes.~~)

(37) "Groundwater" means subsurface water occupying the zone of saturated soil, permanently, seasonally, or as the result of the tides. Indications of groundwater may include:

(a) Water seeping into or standing in an open excavation from the soil surrounding the excavation or monitoring ports.

(b) Spots or blotches of different color or shades of color interspersed with a dominant color in soil, caused by reduction and oxidation of iron. These color patterns are redoximorphic features, commonly referred to as mottling. Redoximorphic features often indicate the intermittent presence of groundwater and may indicate poor aeration and impeded drainage. (~~Also see "water table."~~)

(38) "Holding tank sewage system" means an (~~on-site sewage system which~~) OSS that incorporates a sewage tank without a discharge

outlet, the services of a sewage pumper/hauler, and the offsite treatment and disposal for the sewage generated.

(39) "Hydraulic loading rate" means the amount of effluent applied to a given treatment step, ~~((in this chapter))~~ expressed as gallons per square foot per day or ~~((+))~~ gal/sq.ft./day~~((+))~~.

(40) "Industrial wastewater" means the water or liquid carried waste from an industrial process. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feedlots, poultry houses, or dairies. ~~((The term))~~ Industrial wastewater includes contaminated stormwater and leachate from solid waste facilities.

(41) "Infiltrative surface" means the surface within a treatment component or soil dispersal component to which effluent is applied and through which effluent moves into original, undisturbed soil or other porous treatment media.

(42) "Installer" means a person approved by the local health officer to install ~~((on-site sewage systems))~~ an OSS or OSS components.

(43) "Local health officer" means the health officer of the city, county, or city-county health department or district within the state of Washington, or a representative authorized by and under the direct supervision of the local health officer, as defined in chapter 70.05 RCW.

(44) "LOSS" means a large on-site sewage system under chapter 246-272B WAC.

(45) "Maintenance" means the actions necessary to keep the ~~((on-site sewage system))~~ OSS components functioning as designed.

(46) "Maintenance service provider" means a management entity certified by the local health officer and conducts a comprehensive analysis of an OSS.

(47) "Malfunction" means a damaged or deficient previously conforming OSS component that may be corrected by means of a minor repair.

(48) "Massive structure" means the condition of a soil layer in which the layer appears as a coherent or solid mass not separated into peds of any kind.

(49) "mg/L" means milligrams per liter.

(50) "ml" means milliliter.

(51) "Minimum usable land area" means the minimum land area within the minimum lot size required per development using an OSS, which is based on soil type and type of water supply. Minimum usable land area is free of all physical restrictions and meet minimum vertical and horizontal separations.

(52) "Minor repair" means the repair or replacement of any of the following existing damaged or malfunctioning OSS components except that the repair or replacement of a sewage tank, treatment component, or soil dispersal component is not considered a minor repair:

- (a) Control panels;
- (b) Building sewers;
- (c) Any other portions of tightline in the OSS;
- (d) Risers and riser lids;
- (e) Sewage tank baffles;
- (f) Effluent filters;
- (g) Sewage tank pumps and lids;
- (h) Pump control floats; and
- (i) OSS inspection boxes and ports.

(53) "Moderate structure" means well-formed distinct peds evident in undisturbed soil. When disturbed, soil material parts into a mixture of whole peds, broken peds, and material that is not in peds.

(54) "Modification" means the alteration of an existing OSS component that does not result in an expansion of the system. A modification is not considered a repair.

(55) "Monitoring" means periodic or continuous checking of an (~~on-site sewage system~~) OSS, which is performed by observations and measurements, to determine if the system is functioning as intended and if system maintenance is needed. Monitoring also includes maintaining accurate records that document monitoring activities.

~~( "On-site sewage system" (OSS) means an integrated system of components, located on or nearby the property it serves, that conveys, stores, treats, and/or provides subsurface soil treatment and dispersal of sewage. It consists of a collection system, a treatment component or treatment sequence, and a soil dispersal component. An on-site sewage system also refers to a holding tank sewage system or other system that does not have a soil dispersal component.) )~~

(56) "NSF" means National Sanitation Foundation International.

(57) "O&G" means oil and grease, a component of sewage typically originating from food stuffs such as animal fats or vegetable oils, or consisting of compounds of alcohol or glycerol with fatty acids such as soaps and lotions, typically expressed in mg/L.

(58) "Operating capacity" means the average daily volume of sewage an OSS can treat and disperse on a sustained basis. The operating capacity, which is lower than the design flow, is an integral part of the design and is used as an index in OSS monitoring.

(59) "Ordinary high-water mark" means the mark on lakes, streams, springs, and tidal waters, found by examining the beds and banks and ascertaining where the presence and action of waters are so common and usual, and so long continued in all ordinary years, as to mark upon the soil a character distinct from that of the abutting upland with respect to vegetation, as that condition exists on the effective date of this chapter, or as it may naturally change thereafter. The following (~~definitions~~) conditions apply where the ordinary high-water mark cannot be found:

(a) The ordinary high-water mark adjoining marine water is the elevation at mean higher high tide; and

(b) The ordinary high-water mark adjoining freshwater is the line of mean high water.

(60) "OSS" means on-site sewage system, an integrated system of components, located on or nearby the property it serves, which conveys, stores, treats, and provides subsurface soil treatment and dispersal of sewage. It consists of a collection system, a treatment component or treatment component sequence, and a soil dispersal component. An OSS also refers to a holding tank sewage system or other system that does not have a soil dispersal component. The term "on-site sewage system (OSS)" does not include any system regulated by a water quality discharge permit issued under chapter 90.48 RCW.

(61) "PAG" means policy advisory group.

(62) "PDP" means product development permit.

(63) "Ped" means a unit of soil structure such as blocks, column, granule, plate or prism formed by natural processes.

(64) "Person" means any individual, corporation, company, association, society, firm, partnership, joint stock company, or any governmental agency, or the authorized agents of these entities. For the

purposes of WAC 246-272A-0430 and 246-272A-0440, a person is defined to include:

- (a) Applicant;
- (b) Reapplicant;
- (c) Permit holder; or
- (d) Any individual associated with (a), (b) or (c) of this sub-

section including, but not limited to:

- (i) Board members;
- (ii) Officers;
- (iii) Managers;
- (iv) Partners;
- (v) Association members;
- (vi) Agents; and
- (vii) Third persons acting with the knowledge of such persons.

(65) "Planned unit development" means a subdivision characterized by a unified site design, clustered residential units (~~and~~) or commercial units, and areas of common open space.

(66) "Platy structure" means soil that contains flat pedes that lie horizontally and often overlap. This type of structure (~~will~~) impedes the vertical movement of water.

(67) "Pressure distribution" means a system of small diameter pipes equally distributing effluent throughout (~~a SSAS~~) an OSS, as described in the (~~department's "Recommended Standards and Guidance~~) DS&G for Pressure Distribution Systems, ("2001") 2022. A subsurface drip system (~~may be used wherever the chapter requires~~) is considered a pressure distribution system.

(68) "Professional engineer" means a person who is currently licensed as an engineer under the provisions of chapter 18.43 RCW.

(69) "Proprietary product" means a sewage treatment and distribution technology, method, or material subject to a patent or trademark.

(70) "Public domain technology" means a sewage treatment and distribution technology, method, or material not subject to a patent or trademark.

(71) "Public sewer system" means a sewerage system:

(a) Owned or operated by a city, town, municipal corporation, county, or other approved ownership consisting of a collection system and necessary trunks, pumping facilities and a means of final treatment and disposal; and

(b) Approved by or under permit from the department of ecology, the department of health (~~and~~) or a local health officer.

(72) "Puget Sound counties" means Clallam, Island, Kitsap, Jefferson, Mason, San Juan, Seattle-King, Skagit, Snohomish, Tacoma-Pierce, Thurston, and Whatcom. All other counties are defined as non-Puget Sound counties.

(73) "Pump chamber" means a watertight receptacle placed after a septic tank, sewage tank, or other treatment facility that contains the required controls and alarms to convey sewage effluent to a treatment or dispersal component.

(74) "Pumper" means a person approved by the local health officer to remove and transport sewage or septage from (~~on-site sewage systems~~) an OSS.

(75) "Record drawing" means an accurate graphic and written record of the location and features of the OSS that are needed to properly monitor, operate, and maintain that system. Also known as an "as-built" drawing.

(76) "Remediation" means any action, approved by the local health officer, which attempts to restore the function of a previously con-

forming OSS dispersal component that has failed. Remediation is not considered:

(a) A minor repair;

(b) A repair;

(c) An additive; or

(d) A treatment or distribution technology that allows the OSS to meet a specific treatment level.

(77) "Repair" means the relocation, replacement or reconstruction of a failed (~~on-site sewage system~~) OSS, or any OSS components not included in the list for a minor repair, which have failed in order to restore the OSS to a nonfailure status.

(78) "Reserve area" means an area of land approved for the installation of a conforming (~~system~~) OSS that is protected and maintained for replacement of the OSS upon its failure.

(79) "Residential sewage" means sewage having the constituency and (~~strength~~) quality typical of (~~wastewater from domestic households~~) residential septic tank effluent consistent with treatment level E identified in Table III in WAC 246-272A-0110.

(80) "Restrictive layer" means a stratum impeding the vertical movement of water, air, and growth of plant roots, such as hardpan, claypan, fragipan, caliche, some compacted soils, bedrock and unstructured clay soils.

(81) "Rock fragment" means rock or mineral fragments having a diameter of two millimeters or more (~~for example~~). Examples include, gravel, cobbles, stones, and boulders.

(82) "Seepage pit" means an excavation more than three feet deep where the sidewall of the excavation is designed to dispose of septic tank effluent. Seepage pits (~~may~~) are also (~~be called "dry wells."~~) known as dry wells.

(83) "Septage" means (~~the mixture of solid wastes, scum, sludge, and liquids pumped from within septic tanks, pump chambers, holding tanks, and other OSS components~~) liquid or solid material removed from sewage tanks, cesspools, portable toilets, type III marine sanitation devices, vault toilets, pit toilets, recreational vehicle holding tanks, or similar systems that receive only domestic sewage.

(84) "Septic tank" means a watertight treatment receptacle receiving the discharge of sewage from a building sewer or sewers, designed and constructed to (~~permit separation of~~) separate settleable and floating solids from the liquid, detention and anaerobic digestion of the organic matter, prior to discharge of the liquid.

(~~"Septic system" see on-site sewage system or OSS.~~)

(85) "Sewage" means any urine, feces, and the water carrying human wastes, including kitchen, bath, and laundry wastes from residences, buildings, industrial establishments, or other places.

(86) "Sewage quality" means contents in sewage that include:

(a) CBOD<sub>5</sub>, TSS, and O&G;

(b) Other parameters that (~~can~~) may adversely affect treatment. Examples include pH, temperature, and dissolved oxygen; or

(c) Other constituents that create concerns due to specific site sensitivity. Examples include fecal coliform, *E. coli*, phosphorus, and nitrogen.

(87) "Sewage tank" means a prefabricated or cast-in-place septic tank, pump (~~tank/dosing~~) chamber, dosing chamber, holding tank, grease interceptor, recirculating filter tank or any other tanks as they relate to (~~on-site sewage systems~~) OSS including tanks for use with proprietary products.

(88) "Soil dispersal component" means a technology that releases effluent from a treatment component into the soil for dispersal, final treatment and recycling.

(89) "Soil log" means a detailed description of soil characteristics providing information on the soil's capacity to act as an acceptable treatment and dispersal medium for sewage.

(90) "Soil scientist" means a person certified by the American Society of Agronomy as a Certified Professional Soil Scientist.

(91) "Soil type" means one of seven numerical classifications of fine earth particles and rock fragments as described in WAC 246-272A-0220 (2) (e).

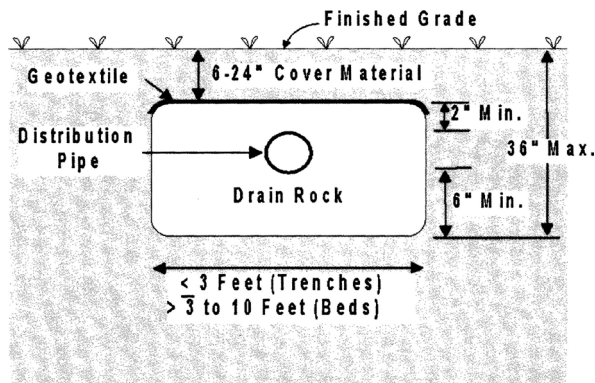
(92) "Standard methods" means the ~~((20th))~~ 23rd Edition of Standard Methods for the Examination of Water and Wastewater, prepared and published jointly by the American Public Health Association, the American Water Works Association and the Water Environment Federation.

(93) "Strong structure" means peds are distinct in undisturbed soil. They separate cleanly when soil is disturbed, and the soil material separates mainly into whole peds when removed.

(94) "Subdivision" means a division of land or creation of lots or parcels, described under chapter 58.17 RCW, including both long and short subdivisions, planned unit developments, and mobile home parks.

(95) "Subsurface drip system" means an efficient pressurized wastewater distribution system that can deliver small, precise doses of effluent to soil surrounding the drip distribution piping ~~((called))~~, also known as dripline ~~((+))~~, as described in the ~~((department's "Recommended Standards and Guidance"))~~ DS&G for Subsurface Drip Systems, 2020. ~~(("))~~

~~(("Subsurface soil absorption system" (SSAS) means))~~ (96) "SSAS" means a subsurface soil absorption system that is a soil dispersal component of trenches or beds containing either a distribution pipe within a layer of drainrock covered with a geotextile, or an approved gravelless distribution technology, designed and installed in ~~((original, undisturbed, unsaturated soil providing at least minimal vertical separation as established in this chapter))~~ suitable soil, with either gravity or pressure distribution of the treatment component effluent.



(97) "Suitable" means original, undisturbed, unsaturated soil of soil types 1-6 with at least the vertical separation established in this chapter.

(98) "Surface water" means any fresh or marine body of water ~~((whether fresh or marine))~~ flowing or contained in natural or artificial unlined depressions for significant periods of the year, including natural and artificial lakes, ponds, springs, rivers, streams, swamps, marshes, irrigation canals and tidal waters.



(99) "TAG" means the technical advisory group established in WAC 246-272A-0400.

(100) "Timed dosing" means delivery of discrete volumes of sewage at prescribed time intervals.

(101) "TN" means total nitrogen, typically expressed in mg/L.

(102) "Treatment component" means a technology that treats sewage in preparation for further treatment (~~and~~) or dispersal into the soil environment. Some treatment components, such as mound systems, incorporate a soil dispersal component in lieu of separate treatment and soil dispersal components.

(103) "Treatment component sequence" means any series of treatment components that discharges treated sewage to the soil dispersal component.

(104) "Treatment level" means one of (~~six~~) the following levels (A, B, C, DL1, DL2, DL3, E, & N) (~~used in these rules~~) to:

(a) Identify treatment component performance demonstrated through requirements specified in WAC 246-272A-0110; and

(b) Match site conditions of vertical separation and soil type with treatment components. (~~Treatment levels used in these rules are not intended to be applied as field compliance standards. Their intended use is for establishing treatment product performance in a product testing setting under established protocols by qualified testing entities.~~)

~~"Treatment sequence" means any series of treatment components that discharges treated sewage to the soil dispersal component.)~~

(105) "Trench" means a soil dispersal component consisting of an excavation with a width of three feet or less.

(106) "TSS" means total suspended solids, a measure of all suspended solids in a liquid, typically expressed in mg/L.

(107) "Unit volume of sewage" means:

(a) Flow from a single-family residence;

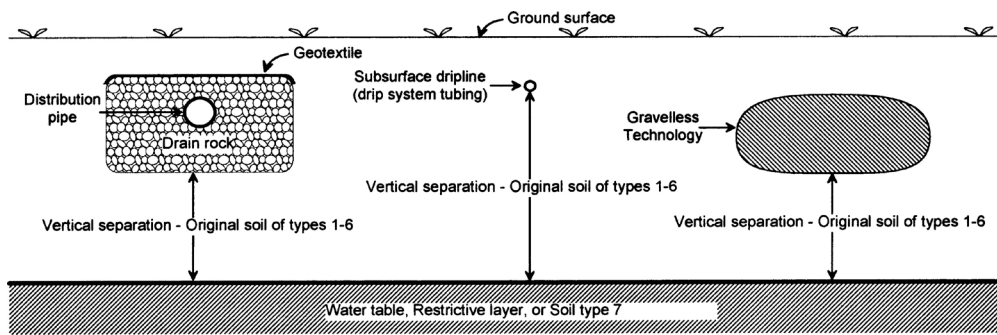
(b) Flow from a mobile home site in a mobile home park; or

(c) Four hundred fifty gallons of sewage per day where the proposed development is not single-family residences or a mobile home park.

(108) "Unknown OSS" means an OSS that was installed without the knowledge or approval of the local health jurisdiction, including those that were installed before such approval was required.

(109) "Unpermitted sewage discharge" means the discharge of sewage or treated effluent from an unknown OSS.

(110) "Vertical separation" means the depth of (~~unsaturated, original, undisturbed soil of soil types 1-6~~) suitable soils between the bottom infiltrative surface of a soil dispersal component and the highest seasonal water table, a restrictive layer, or soil type 7 as illustrated below by the profile drawing of subsurface soil absorption systems:



(111) "Very gravelly" means soil containing ~~((thirty-five))~~ 35 percent or more, but less than ~~((sixty))~~ 60 percent rock fragments by volume.

(112) "Water supply protection zone" means the land area around each existing or proposed well site to protect the water supply from contamination.

(113) "Water table" means the upper surface of the groundwater, whether permanent or seasonal. Also see "groundwater" as defined in this section. ((  ))

(114) "Well" means any excavation that is constructed when the intended use of the well is for the location, diversion, artificial recharge, observation, monitoring, dewatering or withdrawal of groundwater for agricultural, municipal, industrial, domestic, or commercial use. ~~((Excluded are))~~ The following are not considered a well:

(a) A temporary observation or monitoring well used to determine the depth to a water table for locating an OSS;

(b) An observation or monitoring well used to measure the effect of an OSS on a water table; ~~((and))~~

(c) An interceptor or curtain drain constructed to lower a water table; and

(d) A dewatering well used temporarily for the purpose of a sewage tank or pump chamber installation.

## GENERAL REQUIREMENTS

### NEW SECTION

**WAC 246-272A-0013 Local rules.** (1) The local health officer shall enforce the requirements of this chapter until a local board of health adopts local OSS regulations. A local board of health may adopt and enforce local rules governing OSS when the local regulations are:

(a) Consistent with, and at least as stringent as this chapter; and

(b) Approved by the department prior to the effective date of local regulations.

(2) To apply for department approved local OSS regulations a local board of health shall submit the proposed local regulations to the department.

(3) Within 90 days of receipt of proposed local regulations, the department shall:

(a) Approve the proposed regulations; or

(b) Deny the proposed regulations if the department determines local regulations are not consistent with this chapter or less stringent than this chapter and provide specific reasons for the denial.

(4) Upon receipt of department approval, or after 90 days if the department fails to act, the local board may implement adopted regulations. The local board shall provide a copy of the adopted local regulations to the department.

(5) If the department denies approval of local regulations, the local board of health may:

(a) Resubmit revised regulations that address the specific reasons for the denial for department consideration; or

(b) Submit a request to the department to review its denial within 120 days from the date the local board of health receives the specific reasons for the denial.

(6) Upon receipt of request for review of the department denial, the department shall:

(a) Acknowledge the receipt of the request within 30 days; and

(b) Form a mutually acceptable advisory panel to review the department denial and reach an agreement within a reasonable time. The panel shall consist of:

(i) One representative from the department;

(ii) One representative from a local health jurisdiction other than that which requested the review; and

(iii) One member of the TAG.

(7) If good faith efforts to reach agreement are unsuccessful between the department and a local board of health, the local board of health may appeal the denial to the Washington state board of health for resolution.

(8) Nothing in this chapter shall prohibit the adoption and enforcement of more stringent regulations by a local board of health.

AMENDATORY SECTION (Amending WSR 05-15-119, filed 7/18/05, effective 9/15/05)

**WAC 246-272A-0015 Local management ((and regulation)) plans.**

(1) ~~((By July 1, 2007,))~~ The local health officer((s of health jurisdictions in the twelve counties bordering)) for each Puget Sound county shall develop a written local management plan ((that will)) to provide guidance to the local health jurisdiction regarding development and management activities for all OSS within the jurisdiction. The ((plan)) department will review the existing OSS local management plans for all Puget Sound counties within two years of the effective date of the rule. If the department determines a plan revision is necessary upon review, the local health officer shall revise the local management plan for all OSS within the local health jurisdiction consistent with subsection (2) of this section.

(2) At a minimum, the local management plan for Puget Sound counties must specify how the local health jurisdiction will:

(a) Progressively develop and maintain an inventory including the type and location of all known OSS in operation within the jurisdiction;

(b) Identify any areas where OSS could pose an increased public health risk. The following areas shall be given priority in this activity:

(i) Shellfish protection districts or shellfish growing areas;

(ii) Sole source aquifers as designated by the ~~((USEPA))~~ EPA;

(iii) Areas in which aquifers used for potable water as designated under the Washington State Growth Management Act ~~((7))~~ under chapter 36.70A RCW are critically impacted by recharge;

(iv) Designated wellhead protection areas ~~((for))~~ in Group A public water ~~((systems))~~ supplies under chapter 246-290 WAC;

(v) Up-gradient areas directly influencing water recreation facilities designated for swimming in natural waters with artificial boundaries within the waters as described by the Water Recreation Facilities Act ~~((7))~~ under chapter 70.90 RCW;

(vi) Areas designated ~~((by the department of ecology))~~ as special protection areas under WAC 173-200-090 ~~((7 Water quality standards for groundwaters of the state of Washington))~~;

(vii) Wetland areas under production of crops for human consumption;

(viii) Frequently flooded areas including areas delineated by the Federal Emergency Management Agency ~~((and))~~ or as designated under the Washington State Growth Management Act ~~((7))~~ under chapter 36.70A RCW;

(ix) Areas where nitrogen has been identified as a contaminant of concern including, but not limited to, the marine waters of Puget Sound; ~~((and))~~

(x) Areas where phosphorous has been identified as a contaminant of concern;

(xi) Areas where sea level rise may impact adequate horizontal separations to surface water; and

(xii) Other areas designated by the local health officer.

(c) Identify operation, maintenance and monitoring requirements commensurate with risks posed by OSS within the geographic areas identified in (b) of this subsection;

~~((Facilitate education of homeowners regarding their responsibilities under this chapter and provide operation and maintenance information for all types of systems in use within the jurisdiction;~~

~~((Remind and encourage homeowners to complete the operation and maintenance inspections required by WAC 246-272A-0270;~~

~~(( )) Educate OSS owners about their responsibilities to perform OSS operation and maintenance, including information for owners to complete any inspection required by WAC 246-272A-0270;~~

~~(( )) Maintain records required under this chapter, including ~~((of))~~ all operation and maintenance activities as identified; ~~((and))~~~~

~~(( ))~~ (f) Enforce OSS owner permit application, operation, monitoring and maintenance and failure repair requirements ~~((defined))~~ in WAC 246-272A-0200 ~~((1))~~ (2), 246-272A-0260, 246-272A-0270, 246-272A-0275, and 246-272A-0280 ~~((1 and 2))~~;

~~(( ))~~ (g) Describe the capacity of the local health jurisdiction to ~~((adequately))~~ fund the local ~~((OSS plan, including))~~ management plan, which includes a summary of program expenditures by activity, source of funds, a strategy to fill any funding gaps, and the ability to find failing and unknown systems; and

~~(( ))~~ (h) Verify that the local management plan was developed ~~((to coordinate))~~ in coordination with the comprehensive

land use plan of the entities governing development (~~(in the health officer's)~~) within the local health jurisdiction.

~~((2) After being approved by the local board of health following a public hearing, the local health officers required to develop a written plan under subsection (1) of this section shall:~~

~~(a) Supply a copy of the plan to the department;~~

~~(b) Supply a copy of the plan to the entities responsible for land use planning and development regulations in the health officer's jurisdiction; and~~

~~(c) Implement the plan described in subsection (1) of this section.~~

~~(3) The plans of local health jurisdictions required to develop a written plan under subsection (1) of this section shall be submitted to the department by July 1, 2007, and shall be reviewed to ensure the elements described in subsection (1) of this section have been addressed. The department shall provide in writing to the local board of health its review of the completeness of the plan.~~

~~(4) For purposes of this chapter, the local health jurisdictions in marine counties are Clallam, Island, Kitsap, Jefferson, Mason, San Juan, Seattle-King, Skagit, Snohomish, Tacoma-Pierce, Thurston and Whatcom.))~~

(3) The department shall review the local management plan for Puget Sound counties at least once every five years. If the department determines plan revision is necessary upon review of the local management plan described in subsection (2) of this section, the department shall notify the local health officer of their findings.

(4) The local health officer for Puget Sound counties shall:

(a) Review and update the local management plan, as necessary, or at least once every five years;

(b) If after the review the local management plan is updated, provide an opportunity for public input on the local management plan;

(c) Following local board of health approval, submit the local management plan to the department for review;

(d) Implement the local management plan;

(e) Submit an annual report to the department including all of the following in a format specified by the department:

(i) Number of OSS;

(ii) Number of unknown OSS identified;

(iii) Number of failures found;

(iv) Number of failures repaired; and

(v) Status of compliance with inspections required by WAC 246-272A-0270;

(f) Supply a copy of the local management plan to the entities responsible for land use planning and development regulations in the local health jurisdiction.

~~(5) The local health officer(~~s~~) for (~~all other jurisdictions not required to develop a written plan under subsection (1) of this section~~) a non-Puget Sound county shall develop a written local management plan that will provide guidance to the local health jurisdiction regarding development and management activities for all OSS within the jurisdiction. At a minimum the plan shall include:~~

~~(a) A description of the capacity of the local health jurisdiction to provide education and operation and maintenance information for all types of systems in use within the jurisdiction;~~

~~(b) A description of how the local health officer will remind and encourage homeowners to complete the operation and maintenance inspection required by WAC 246-272A-0270; and~~

~~(e)~~ A description of the capacity of the local health jurisdiction to adequately fund the local OSS plan.

(6) In order to implement the plan described in subsections (1) and (5) of this section, the local health officer shall require the owner of the OSS to:

~~(a)~~ Comply with additional requirements identified in the plan for the location, design, or performance; and

~~(b)~~ Comply with the conditions of the operational permit if one is required.

(7) In order to implement the plan described in subsections (1) and (5) of this section, the local health officer may require the owner of the OSS to:

~~(a)~~ Ensure additional maintenance and monitoring of the OSS;

~~(b)~~ Provide dedicated easements for inspections, maintenance, and potential future expansion of the OSS; and

~~(c)~~ Place a notice to title identifying any additional requirements for OSS operation, maintenance and monitoring(;; and

~~(d)~~ Have an inspection of the OSS at the time of property transfer including the preparation of a "record drawing" if necessary.

~~(8)~~ No later than July 1, 2006, the department shall develop guidance on local management programs to assist marine local health jurisdictions in plan development.

~~(9)~~ Until such time as the local board of health decides to adopt its own rules, the local health officer shall enforce this chapter. Local boards of health may adopt and enforce local rules and regulations governing on-site sewage systems when the local regulations are:

~~(a)~~ Consistent with, and at least as stringent as, this chapter; and

~~(b)~~ Approved by the department prior to the effective date of local regulations.

~~(10)~~ A local board of health shall apply for departmental approval of local regulations by initiating the following procedure:

~~(a)~~ The local board shall submit the proposed local regulations to the department.

~~(b)~~ Within ninety days of receipt, the department shall:

~~(i)~~ Approve the regulation in writing; or

~~(ii)~~ Signify automatic tacit approval with the local regulations and permitting local implementation by failing to act; or

~~(iii)~~ Deny approval of the regulations. If the department determines local regulations are not consistent with this chapter, the department shall provide specific reasons for denial.

~~(11)~~ Upon receipt of departmental approval or after ninety days without notification, whichever comes first, the local board may implement adopted regulations. The local board shall provide a copy of the adopted local regulations to the department.

~~(12)~~ If the department denies approval of local regulations, the local board of health may:

~~(a)~~ Resubmit revised regulations for departmental consideration; or

~~(b)~~ Submit a written request for a review of the departmental denial within one hundred twenty days from the date the local board of health receives the written reasons for the denial.

~~(13)~~ Upon receipt of written request for review of the departmental denial, the department shall:

~~(a)~~ Acknowledge the receipt of the request in writing; and

~~(b)~~ Form a mutually acceptable advisory panel consisting of:

~~(i)~~ One departmental employee;

~~(ii) One employee from a local health jurisdiction other than that which requested the review; and~~

~~(iii) One member of the technical advisory committee.~~

~~(14) If good faith efforts to reach agreement are unsuccessful, the local board of health may appeal the denial to the Washington state board of health for resolution.~~

~~(15) Nothing in this chapter shall prohibit the adoption and enforcement of more stringent regulations by local health departments.~~

~~(16) In the plan required in subsection (1) of this section and in local regulations, the local health officer may address water conservation and include options for the nonpotable reuse of gray water. Any treatment and dispersal of gray water outside the residence or structure must comply with this chapter).~~

(8) The department shall maintain and update guidance and provide technical assistance to assist local health jurisdictions in local management plan development.

### **( (GENERAL REQUIREMENTS) )**

AMENDATORY SECTION (Amending WSR 05-15-119, filed 7/18/05, effective 9/15/05)

#### **WAC 246-272A-0025 Connection to public sewer system. (1)**

~~((When))~~ Upon the failure of an existing OSS within the service area of a sewer utility, the local health officer shall:

(a) Permit the repair or replacement of the OSS only if a conforming OSS can be designed and installed, excluding OSS designed in compliance with or proposing to use Table X in WAC 246-272A-0280; or

(b) Require connection to a public sewer system if the sewer utility allows the connection and has adequate public sewer services ((are)) available within ((two hundred feet of the residence or facility, the local health officer, upon the failure of an existing on-site sewage system may:

~~(a) Require hook-up to a public sewer system; or~~

~~(b) Permit the repair or replacement of the on-site sewage system only if a conforming system can be designed and installed.~~

~~(2) Except as noted in subsection (1) of this section, the owner of a failure shall abandon the OSS under WAC 246-272A-0300 and connect the residence or other facility to a public sewer system when:~~

~~(a) The distance between the residence or other facility and an adequate public sewer is two hundred feet or less as measured along the usual or most feasible route of access; and~~

~~(b) The sewer utility allows the sewer connection.~~

(3) ) 200 feet from where the existing building drain connects to the existing building sewer, or where no building drain exists, within 200 feet from where the sewer line begins, as measured along the usual or most feasible route of access.

(2) The owner of a ((residence or other facility)) structure served by ((a system meeting the requirements of Table IX of this chapter)) an OSS permitted as a repair under Table X in WAC 246-272A-0280 shall abandon the OSS ((according to the requirements)) as specified in WAC 246-272A-0300, and connect the ((residence or other facility)) structure to a public sewer system when:

(a) Connection is deemed necessary to protect public health by the local health officer;

(b) An adequate public sewer becomes available within ((two hundred)) 200 feet of the ((residence or other facility)) existing structure, or in cases where no building drain exists, within 200 feet from where the sewer for the building begins, as measured along the usual or most economically feasible route of access; and

(c) The sewer utility allows the sewer connection.

~~((4))~~ (3) Local boards of health may require a new development to connect to a public sewer system to protect public health.

~~((5))~~ (4) Local boards of health shall require new development or a development with a failing ((system)) OSS to connect to a public sewer system if it is required by the comprehensive land use plan or development regulations.

AMENDATORY SECTION (Amending WSR 05-15-119, filed 7/18/05, effective 9/15/05)

**WAC 246-272A-0100 Sewage technologies.** (1) The department ((may develop recommended)) shall maintain standards and guidance ((to assist)) for local health officers ((in permitting different types of)) to permit sewage treatment and distribution technologies ((including the following four broad categories:

~~(a) Public domain treatment technologies (e.g., sand filters);~~

~~(b) Proprietary treatment products (e.g., aerobic treatment systems and packed bed filters);~~

~~(c) Public domain distribution technologies (e.g., gravel or generic gravel substitutes, gravity and pressure distribution methods and materials);~~

~~(d) Proprietary distribution products (e.g., subsurface dripline products or gravelless distribution products)).~~

(2) ((All types of)) Before the local health officer permits sewage technologies, the sewage technologies must ((have either standards)) be registered for use as described in this chapter, have standards for use as described or referenced in this chapter, or ((departmental recommended standards and guidance before the local health officer may permit them. Recommended standards and guidance may include information and detail such as:

~~(a) Application;~~

~~(b) Design;~~

~~(c) Installation;~~

~~(d) Operation, monitoring and maintenance;~~

~~(e) Performance expectations; and~~

~~(f) Sources of information.)) have DS&G describing sewage technologies uses as maintained by the department.~~

(3) The department may remove, restrict, or suspend a proprietary product's approval for use based on failure to meet required standards or conditions of approval.



**WAC 246-272A-0110 Proprietary treatment products—(~~Certification and~~) Eligibility for registration.** (1) ~~Manufacturers shall register ((their)) a proprietary treatment product((s)) with the department using the process described in WAC 246-272A-0120 before ((the)) a local health officer may permit ((their)) use of the product.~~

(2) ~~To ((qualify)) be eligible for product registration, manufacturers desiring to sell or distribute proprietary treatment products in Washington state shall:~~

(a) ~~Verify product performance through testing using the testing protocol established in Table I ((and register their product with the department using the process described in WAC 246-272-0120)) of this section;~~

(b) ~~Report product test results of influent and effluent sampling obtained throughout the testing period (including normal and stress loading phases) for evaluation of constituent reduction according to the requirements in Table II of this section;~~

(c) ~~Demonstrate product performance according to the requirements in Table III of this section. All ((thirty-day)) 30-day averages and geometric means obtained throughout the test period must meet the identified threshold values to qualify for registration at that threshold level; and~~

(d) ~~((For registration at levels A, B, and C)) Verify bacteriological reduction according to WAC 246-272A-0130 for product registration utilizing disinfection levels DL1, DL2, and DL3.~~

(3) ~~Manufacturers verifying product performance through testing according to the following standards or protocols shall have product testing conducted by a testing facility accredited by ANSI:~~

(a) ~~((ANSI/NSF)) NSF/ANSI Standard 40((-)): Residential Wastewater Treatment Systems;~~

(b) ~~NSF/ANSI Standard 41: Non-Liquid Saturated Treatment Systems;~~

(c) ~~NSF Protocol P157 Electrical Incinerating Toilets - Health and Sanitation; ((or))~~

(d) ~~((Protocol)) NSF/ANSI Standard 245: Residential Wastewater Treatment Systems - Nitrogen Reduction; or~~

(e) ~~NSF/ANSI Standard 385: Residential Wastewater Treatment Systems - Disinfection Mechanics for Bacteriological Reduction described in WAC 246-272A-0130.~~

(4) ~~Manufacturers verifying product performance through testing according to ((the following standards or protocols shall have product testing conducted by a testing facility meeting the requirements established by the Testing Organization and Verification Organization, consistent with the test protocol and plan:~~

(a) ~~EPA/NSF Protocol for the Verification of Wastewater Treatment Technologies; or~~

(b) ~~EPA Environmental Technology Verification Program protocol for the Verification of Residential Wastewater Treatment Technologies for Nutrient Reduction.) EPA Method 1664, Revision B and using a wastewater laboratory certified by the Washington department of ecology shall provide supporting information, including flow data, and influent and effluent quality sampling results from a minimum of three installations with similar design loading to demonstrate product performance to Category 2 standards.~~

(5) Treatment levels (~~used in these rules are not intended to be applied as field compliance standards. Their intended use is for establishing~~) established in Table III of this section are intended to establish treatment product performance in a product testing setting under established protocols by qualified testing entities. Field compliance standards for proprietary treatment products shall follow the requirements in WAC 246-272A-0120(5).

(6) Manufacturers may submit a written request to substitute components of a registered product's construction in cases of supply chain shortage or similar manufacturing disruptions impacting installations, operation, or maintenance. The substitution request must include a report stamped, signed, and dated by a professional engineer demonstrating the substituted component will not negatively impact performance or diminish the effect of the treatment, operation, and maintenance of the original registered product. If approved, substitution is authorized until rescinded by the department.

~~( ( TABLE I ) )~~  
**Table I**

Testing Requirements for Proprietary Treatment Products	
Treatment Component/Sequence Category	Required Testing Protocol
<b>Category 1</b> Designed to treat ( <del>sewage with strength typical of a residential source when</del> ) septic tank effluent ( <del>is</del> ) anticipated to be equal to or less than treatment level E.	((ANSI/NSF)) NSF/ANSI 40—Residential Wastewater Treatment Systems ( <del>protocols</del> ) versions dated between ( <del>July 1996 and the effective date of these rules</del> ) <u>January 2009 and May 31, 2021</u>
<b>Category 2</b> Designed to treat ( <del>high-strength sewage when septic tank</del> ) effluent ( <del>is</del> ) or <u>sewage with sewage quality parameters</u> anticipated to be greater than treatment level E.  (Such as at restaurants, grocery stores, mini-marts, group homes, medical clinics, residences, etc.)	((EPA/NSF Protocol for the Verification of Wastewater Treatment Technologies/ EPA Environmental Technology Verification (April 2001))) <u>EPA Method 1664, Revision B (February 2010)</u>
<b>Category 3</b> Black water component of residential sewage (such as composting* and incinerating** toilets).	NSF/ANSI Standard 41: Non-Liquid Saturated Treatment Systems ( <del>September 1999</del> ) <u>Versions dated between February 2011 and May 31, 2021</u>  **NSF Protocol P157 Electrical Incinerating Toilets - Health and Sanitation (April 2000)
<b>Total Nitrogen Reduction in Categories 1 &amp; 2 (Above)</b>	((Protocol for the Verification of Residential Wastewater Treatment Technologies for Nutrient Reduction/EPA Environmental Technology Verification Program (November, 2000))) <u>NSF/ANSI Standard 245: Residential Wastewater Treatment Systems – Nitrogen Reduction (Versions dated between January 2018 and May 31, 2021)</u>

~~( ( TABLE II ) )~~  
**Table II**

Test Results Reporting Requirements for Proprietary Treatment Products	
Treatment Component/Sequence Category	Testing Results Reported
<b>Category 1</b> Designed to treat ( <del>sewage with strength typical of a residential source when</del> ) septic tank effluent ( <del>is</del> ) anticipated to be equal to or less than treatment level E.	Report <u>the following</u> test results of influent and effluent sampling obtained throughout the testing period for evaluation of ( <del>constituent</del> ) reduction ( <del>for the parameters:</del> ) <u>of CBOD<sub>5</sub><sup>2</sup> and TSS:</u>

**Test Results Reporting Requirements for Proprietary Treatment Products**

	<ul style="list-style-type: none"> <li><input type="checkbox"/> Average</li> <li><input type="checkbox"/> Minimum</li> <li><input type="checkbox"/> Median</li> <li><input type="checkbox"/> 30-day Average (for each month)</li> <li><input type="checkbox"/> Standard Deviation</li> <li><input type="checkbox"/> Maximum</li> <li><input type="checkbox"/> Interquartile Range</li> </ul> <p>For <u>evaluation of</u> bacteriological reduction performance(,).  <u>Report complete treatment component sequence testing as described in Table III, Category 1.</u>  <u>For evaluation of performance meeting treatment level DL1:</u>  <u>(1) Report fecal coliform test results of influent and effluent sampling by geometric mean from samples drawn within ((thirty)) 30-day or monthly calendar periods, obtained from a minimum of three samples per week throughout the testing period. See WAC 246-272A-0130.</u>  <u>(2) Report complete testing results for supplemental bacteriological reduction technology<sup>1</sup> when the required treatment levels for fecal coliform in Table III, Category 1 are not met by the primary proprietary treatment product.</u>  <u>For evaluation of performance meeting treatment levels DL2 or DL3:</u>  <u>(1) Report fecal coliform test results of influent and effluent sampling by geometric mean from samples drawn within 30-day or monthly calendar periods, obtained from a minimum of three samples per week throughout the testing period as described in WAC 246-272A-0130; or</u>  <u>(2) Report complete testing results for supplemental bacteriological reduction technology<sup>1</sup> when the required treatment levels for fecal coliform in Table III, Category 1 are not met by the primary proprietary treatment product.</u>  <u>For all options, test report must also include the individual results of all samples drawn throughout the test period.</u></p>
<p><b>Category 2</b> Designed to treat ((high strength sewage when septic tank)) effluent ((is)) or sewage with sewage quality parameters anticipated to be greater than treatment level E.  (Such as at restaurants, grocery stores, mini-marts, group homes, medical clinics, atypical residences, etc.)</p>	<p>Report all individual test results and full test average values of influent and effluent sampling obtained throughout the testing period for the <u>evaluation of reduction of</u>: CBOD<sub>5</sub>, TSS and O&amp;G. Establish the treatment capacity of the product tested in pounds per day for CBOD<sub>5</sub>.</p>
<p><b>Category 3</b> Black water component of residential sewage (such as composting and incinerating toilets).</p>	<p>Report test results on all required performance criteria according to the format prescribed in the NSF test protocol described in Table I.</p>
<p><b>Total Nitrogen Reduction in Categories 1 &amp; 2 (Above)</b></p>	<p>Report test results on all required performance criteria according to the format prescribed in the test protocol described in Table I.</p>

(( ~~TABLE III~~ ))

**Table III**

((Product Performance Requirements for Proprietary Treatment Products					
Treatment Component/Sequence Category	Product Performance Requirements				
<p><b>Category 1</b> Designed to treat sewage with strength typical of a residential source when septic tank effluent is anticipated to be equal to or less than treatment level E.</p>	<b>Treatment System Performance Testing Levels</b>				
	<b>Parameters</b>				
<b>Level</b>	<b>CBOD<sub>5</sub></b>	<b>TSS</b>	<b>O&amp;G</b>	<b>FC</b>	<b>TN</b>
<b>A</b>	10 mg/L	10 mg/L	—	200/100 ml	—

<b>((Product Performance Requirements for Proprietary Treatment Products</b>						
<b>Treatment Component/Sequence Category</b>	<b>Product Performance Requirements</b>					
	<b>B</b>	15 mg/L	15 mg/L	—	1,000/100 ml	—
	<b>C</b>	25 mg/L	30 mg/L	—	50,000/100 ml	—
	<b>D</b>	25 mg/L	30 mg/L	—	—	—
	<b>E</b>	125 mg/L	80 mg/L	20 mg/L	—	—
	<b>N</b>	—	—	—	—	20 mg/L
	Values for Levels A – D are 30-day values (averages for CBOD <sub>5</sub> , TSS, and geometric mean for FC.) All 30-day averages throughout the test period must meet these values in order to be registered at these levels. Values for Levels E and N are derived from full test averages.					
<b>Category 2</b> Designed to treat high strength sewage when septic tank effluent is anticipated to be greater than treatment level E.  (Such as at restaurants, grocery stores, mini-marts, group homes, medical clinics, residences, etc.)	All of the following requirements must be met:  (1) All full test averages must meet Level E; and (2) Establish the treatment capacity of the product tested in pounds per day for CBOD <sub>5</sub> .					
<b>Category 3</b> Black water component of residential sewage (such as composting and incinerating toilets).	Test results must meet the performance requirements established in the NSF test protocol.					
<b>Total Nitrogen Reduction in Categories 1 &amp; 2 (Above)</b>	Test results must establish product performance effluent quality meeting Level N, when presented as the full test average.))					

<b>Product Performance Requirements for Proprietary Treatment Products</b>							
<b>Treatment Component/Sequence Category</b>	<b>Product Performance Requirements</b>						
<b>Category 1</b> Designed to treat effluent anticipated to be equal to or less than treatment level E.	<b><u>Treatment System Performance Testing Levels</u></b>						
		<b><u>Parameters</u></b>					
	<b><u>Level</u></b>	<b><u>CBOD<sub>5</sub></u></b> mg/L	<b><u>TSS</u></b> mg/L	<b><u>O&amp;G</u></b> mg/L	<b><u>FC</u></b> col/100 mL	<b><u>TN</u></b> mg/L	<b><u>E. coli</u></b> cfu/100 mL
	<b><u>A</u></b>	10	10	—	—	—	—
	<b><u>B</u></b>	15	15	—	—	—	—
	<b><u>C</u></b>	25	30	—	—	—	—
	<b><u>DL1</u></b>	25	30	—	200	—	126
	<b><u>DL2</u></b>	—	—	—	1,000	—	—
	<b><u>DL3</u></b>	—	—	—	50,000	—	—
	<b><u>E</u></b>	228	80	20	—	—	—
	<b><u>N</u></b>	—	—	—	—	30 (or 50% reduction based on mass loading as required in WAC 246-272A-0320)	—

<b><u>Product Performance Requirements for Proprietary Treatment Products</u></b>	
<b><u>Treatment Component/Sequence Category</u></b>	<b><u>Product Performance Requirements</u></b>
	<u>Values for Levels A - D are 30-day values (averages for CBOD<sub>5</sub>, TSS, and geometric mean for FC.) All 30-day averages throughout the test period must meet these values in order to be registered at these levels.</u> <u>Values for Levels E and N are derived from full test averages.</u>
<b><u>Category 2</u></b> <u>Designed to treat high-strength sewage when septic tank effluent is anticipated to be greater than treatment level E.</u> <u>(Such as at restaurants, grocery stores, mini-marts, group homes, medical clinics, residences, etc.)</u>	<u>All of the following requirements must be met:</u> <u>(1) All full test averages must meet Level E; and</u> <u>(2) Establish the treatment capacity of the product tested in pounds per day for CBOD<sub>5</sub>.</u>
<b><u>Category 3</u></b> <u>Black water component of residential sewage (such as composting and incinerating toilets).</u>	<u>Test results must meet the performance requirements established in the NSF test protocol.</u>
<b><u>Total Nitrogen Reduction in Categories 1 &amp; 2 (Above)</u></b>	<u>Test results must establish product performance effluent quality meeting Level N, when presented as the full test average.</u>

AMENDATORY SECTION (Amending WSR 05-15-119, filed 7/18/05, effective 9/15/05)

**WAC 246-272A-0120 Proprietary treatment product registration—Process and requirements.** (1) ~~Manufacturers shall register ((their))~~ proprietary treatment ~~((product(s)))~~ products with the department by submitting a complete registration application for review and approval in the format provided by the department, including:

- (a) ~~Manufacturer's name, mailing address, ((street address and))~~ phone number, email address, and website address;
- (b) ~~Contact ((individual's))~~ person's name, title, mailing address, ((street)) email address, and phone number. ~~The contact ((individual))~~ person must be vested with the authority to represent the manufacturer in this capacity;
- (c) Name, including specific brand and model, of the proprietary treatment product;
- (d) A description of the function of the proprietary treatment product along with any known limitation on the use of the product;
- (e) Product description and technical information, including process flow drawings and schematics; materials and characteristics; component design specifications; design capacity, volumes and flow assumptions and calculations; components; dimensioned drawings and photos;
- (f) For treatment systems in Category 2, daily capacity of the model or models in pounds per day of CBOD<sub>5</sub>;
- (g) Siting and installation requirements;

(h) Detailed description, procedure and schedule of routine service and system maintenance events;

(i) Estimated operational costs for the first five years of the treatment component's life. This ~~((shall))~~ must include both estimated annual electricity costs, and routine maintenance costs, including replacement of parts;

(j) Identification of information subject to protection from disclosure of trade secrets;

(k) Most current dated copies of product brochures ((&)) and manuals: Sales & Promotional; Design; Installation; Operation & Maintenance; and Homeowner Instructions;

(l) The most recently available product test protocol dated no earlier than the dates in WAC 246-272A-0110 Table I and the results report;

(m) A signed and dated certification by the manufacturer's agent specifically including the following statement, "I certify that I represent (INSERT MANUFACTURING COMPANY NAME) and I am authorized to prepare or direct the preparation of this application for registration. I attest, under penalty of law, that this document and all attachments are true, accurate, and complete. I understand and accept that the product testing results reported with this application for registration are the parameters and values to be used for determining conformance with Treatment System Performance Testing Levels established in chapter 246-272A WAC";

(n) A signed and dated certification from the testing entity including the statement, "I certify that I represent (INSERT TESTING ENTITY NAME), that I am authorized to report the testing results for this proprietary treatment product. I attest, under penalty of law, that the report about the test protocol and results is true, accurate, and complete"; and

(o) The fee described in WAC ~~((246-272A-990))~~ 246-272-2000.

(2) Products within a single series or model line, ~~((+))~~ sharing distinct similarities in design, materials, and capacities ~~((+))~~, may be registered under a single application, consistent with the provisions of their test protocol for the certification of other products within a product series. Products outside of the series or model line must be registered under separate applications.

(3) Upon receipt of ~~((an))~~ a registration application the department shall:

(a) Verify that the application is complete including dated and current copies of all of the required manuals; and

(b) If ~~((complete))~~ approved, place the product on the department's list of ((proprietary)) registered on-site treatment and distribution products.

(4) All registrations are valid for up to one year, expiring on December 31st of each year. Fees are not prorated.

(5) In order to renew a proprietary treatment product technology registration, a manufacturer shall:

(a) Apply for renewal of product registration using the ~~((form or in the))~~ format provided by the department ~~((+))~~;

(b) Submit ~~((the results of))~~ any of the following applicable reports:

(i) A retesting ~~((, if the product has completed retesting))~~ report from the testing entity according to the protocol required for registration ~~((and a report from the testing entity has been issued since initial registration or previous renewal. Renewal shall be based on the most recent test results.))~~ as identified in this section;

(ii) A field verification performance report as identified in the proprietary products DS&G, dated the effective date of the rule. If field performance results demonstrate that the product has failed to meet the requirements in the DS&G, the manufacturer shall report to the department describing the reasons for the failure to meet the requirements consistent with the DS&G;

(c) Provide an ~~((affidavit))~~ attestation to the department verifying whether or not the product has changed over the previous year. If the product has changed, the ~~((affidavit))~~ attestation must also include a full description of the changes. If the product has changed in a way that affects performance, the product may not be renewed and shall meet the requirements for initial registration~~((-))~~;

(d) Provide a statement that all required dated manuals are current, or submit the updated and dated new manuals; and

(e) Submit the fee established in WAC ~~((246-272A-990))~~ 246-272-2000.

(6) As part of product registration renewal, the department shall:

(a) Request field assessment comments from local health officers no later than October 31st of each year. These comments may include concerns about a variety of field assessment issues, including:

(i) Product function, including verification of field performance testing as identified in the DS&G;

(ii) Product reliability~~((-))~~; and

(iii) Problems arising with operation and maintenance;

(b) Discuss with the ~~((FAC))~~ TAG any field assessment information that may impact product registration renewal;

(c) Notify the manufacturer of any product to be discussed with the ~~((FAC))~~ TAG, prior to discussion with the ~~((FAC))~~ TAG, regarding the nature of comments received; ~~((and))~~

(d) Renew the product registration unless:

(i) The manufacturer of a product does not apply for renewal; or

(ii) The department, after deliberation with the ~~((FAC))~~ TAG, concludes product registration renewal should not be given or should be delayed until the manufacturer submits information that satisfactorily answers concerns and issues; and

(e) Provide a compliance plan to the manufacturer within 90 days based on departmental concerns of public health risk related to the product.

(7) The department shall maintain a list of proprietary treatment products meeting the registration requirements established in this chapter. The product registration is a condition of approval for use.

(8) Manufacturers shall have readily accessible product information for designers, ~~((homeowners,))~~ regulators, ~~((system))~~ OSS owners and other interested parties ~~((about their product))~~ posted on the manufacturer's website including the most current dated version of:

(a) Product manuals;

(b) Design instructions;

(c) Installation instructions;

(d) Operation and maintenance;

(e) ~~((Homeowner))~~ Owner instructions; and

(f) How to locate a list of representatives and manufacturer certified maintenance service providers, if any.

**WAC 246-272A-0130 Bacteriological reduction.** This section establishes the requirements for registering bacteriological reduction processes.

(1) Manufacturers shall, for the purpose of product registration as described in WAC 246-272A-0110 and 246-272A-0120 (~~for meeting treatment levels A, B, or C, verify bacteriological reduction performance by sampling for fecal coliform.~~

(a) ~~For products not yet tested according to ANSI/NSF Standard 40 testing protocol dated July 1996 or later, the requirements of both ANSI/NSF Standard 40 and the protocol specified in subsection (2) of this section for verifying bacteriological reduction must be met.~~

(b) ~~For products that have been tested according to ANSI/NSF Standard 40 dated July 1996 or later but have not yet been tested for bacteriological reduction, treatment performance of the treatment product or sequence may be established based on test results for CBOD<sub>5</sub> and TSS obtained from the previous ANSI/NSF Standard 40 testing and bacteriological reduction performance based on testing according to the protocol in subsection (2) of this section. Provided that the testing entity must verify the influent wastewater stream throughout the bacteriological testing period meets the influent threshold levels for CBOD<sub>5</sub> and TSS required by ANSI/NSF Standard 40 testing protocol):~~

(a) For meeting treatment levels DL1 verify bacteriological reduction performance by sampling for fecal coliform or *E. coli*.

(b) For meeting treatment level DL2 or DL3, verify bacteriological reduction performance by sampling for fecal coliform.

(2) All test data submitted for product registration shall be produced by an ANSI accredited, third-party testing and certification organization whose accreditation is specific to on-site wastewater treatment products. Bacteriological reduction performance must be determined (~~while~~) either:

(a) According to the procedures in NSF/ANSI Standard 385 for supplemental bacteriological reduction; or

(b) Concurrent with testing protocol. The treatment product or treatment component sequence (~~is tested~~) testing according to the ((ANSI/NSF)) NSF/ANSI Standard 40 testing protocol. ((During this))

(3) Testing under subsection (2) (b) of this section shall be completed in compliance with the following requirements ((apply)):

(a) Collect samples from both the influent and effluent streams, identifying the treatment performance achieved by the full treatment process, ((+)) component or sequence ((+));

(b) Obtain influent characteristics falling within a range of 10<sup>(6)</sup> - 10<sup>8</sup> fecal coliform/100 mL or 10<sup>2</sup> - 10<sup>6</sup> *E. coli*/100 mL calculated as ((thirty)) 30-day geometric means during the test ((-));

(c) Test the influent to any disinfection unit and report the following at each occasion of sampling performed in (d) of this subsection:

- (i) Flow rate;
- (ii) pH;
- (iii) Temperature;
- (iv) Turbidity; and
- (v) Color ((-));



(d) Obtain samples for fecal coliform or *E. coli* analysis during both the design loading and stress loading periods identified by NSF/ANSI Standard 40. Grab samples shall be collected from both the influent and effluent on three separate days of the week. Each set of influent and effluent grab samples must be taken from a different dosing time frame, either ((+) morning, afternoon, or evening(+)), so that samples have been taken from each dosing time frame by the end of the week((-));

(e) Conduct analyses according to standard methods;

(f) Report the geometric mean of fecal coliform or *E. coli* test results from all samples taken within ((thirty)) 30-day or monthly calendar periods;

(g) Report the individual results of all samples taken throughout the test period design and stress loading; and

(h) Report all maintenance and servicing conducted during the testing period, including for example, instances of cleaning a UV lamp, or replenishment of chlorine chemicals.

((+3)) (4) Manufacturers may register products in treatment levels ((A)) DL1 and ((B)) DL2 using disinfection.

((+4)) (5) Manufacturers may not register products for treatment level ((C)) DL3 using disinfection.

AMENDATORY SECTION (Amending WSR 05-15-119, filed 7/18/05, effective 9/15/05)

**WAC 246-272A-0140 Proprietary distribution products—Certification ((and registration)) requirements.** (1) ((Manufacturers shall register proprietary distribution products, including gravelless distribution products and subsurface dripline products, with the department before the local health officer may permit their use.

~~(2) Manufacturers desiring to sell proprietary distribution products shall certify that the product(s) meets the standards established in this chapter and register their product(s) with the department using the process described in WAC 246-272A-0145.~~

(3)) Proprietary distribution products, including gravelless distribution products and subsurface dripline products, must be registered with the department before permitting, sale, and use. To be eligible for registration as described in WAC 246-272A-0145, products must first be certified as described in this section.

(2) To be certified, proprietary gravelless distribution products shall:

(a) Be constructed or manufactured from materials that are nondecaying and nondeteriorating and do not leach chemicals when exposed to sewage and the subsurface soil environment;

(b) Provide liquid storage volume at least equal to the storage volume provided within the ((thirty)) 30 percent void space in a ((twelve)) 12-inch layer of drainrock in a drainrock-filled distribution system. This storage volume must be established by the gravelless distribution products, ((system)) OSS design and installation and must be maintained for the life of the ((system)) OSS. This requirement may be met on a lineal-foot, or on an overall system design basis;

(c) Provide ((suitable)) effluent distribution to the infiltrative surface at the soil interface; and

(d) Maintain the integrity of the trench or bed. The material used, by its nature and its manufacturer-prescribed installation procedure, must withstand the physical forces of the soil sidewalls, soil backfill and the weight of equipment used in the backfilling.

~~((4))~~ (3) Proprietary subsurface dripline products shall:

(a) Be warranted by the manufacturer for use with sewage and for resistance to root intrusion~~((--))~~;

(b) Incorporate emitters with a maximum nominal rated discharge of 1.3 gallons per hour. Emitter discharge rate may be controlled either by use of pressure-compensating emitters or with a pressure regulator~~((--))~~; and

(c) Be color-coded purple to identify that the pipe contains non-potable water from a sewage source.

~~(4)~~ To be certified by the department, the manufacturer must submit:

(a) A signed and dated statement by the manufacturer's agent specifically including the following statement, "I certify that I represent (INSERT MANUFACTURING COMPANY NAME) and I am authorized to prepare or direct the preparation of this application for product registration. I attest, under penalty of law, that this document and all attachments, are true, accurate, and complete."

(b) A signed and dated statement from the licensed professional engineer including the statement, "I certify that I represent (INSERT PROFESSIONAL ENGINEERING FIRM NAME), that I am authorized to certify the performance characteristics for the proprietary distribution product presented in this application. I attest, under penalty of law, that the technology report is true, accurate, and complete."

AMENDATORY SECTION (Amending WSR 05-15-119, filed 7/18/05, effective 9/15/05)

**WAC 246-272A-0145 Proprietary distribution product registration**

**—Process and requirements.** (1) Manufacturers shall register their proprietary distribution ~~((product(s)))~~ products with the department by submitting a complete application for review and approval in the format provided by the department, including:

(a) Manufacturer's name, mailing address, ~~((street address, and))~~ phone number, email address, and website address;

(b) Contact ~~((individual's))~~ person's name, title, mailing address, ~~((street))~~ email address, and phone number. The contact ~~((individual))~~ person must be vested with the authority to ~~((act as))~~ represent the agent of the manufacturer in this capacity;

(c) Name, including specific brand and model, of the proprietary distribution product;

(d) A description of the function of the proprietary distribution product along with any known limitations on ~~((its))~~ the use of the product;

(e) Product description and technical information, including schematics; materials and characteristics; component design specifications; design capacity, volumes and flow assumptions and calculations; components; dimensioned drawings and photos;

(f) Siting and installation requirements;

- (g) Detailed description, procedure and schedule of routine service and system maintenance events;
- (h) Identification of information subject to protection from disclosure of trade secrets;
- (i) Most current, dated copies of product brochures and manuals: Sales & Promotional; Design; Installation; Operation & Maintenance; and ((Homeowner)) Owner Instructions;
- (j) For gravelless chamber systems a quantitative description of the actual exposed trench-bottom infiltrative surface area for each model seeking registration;
- (k) A statement from a professional engineer that certifies the technology meets the standards established in WAC 246-272A-0140;
- (l) ~~((A signed and dated certification by the manufacturer's agent specifically including the following statement, "I certify that I represent (INSERT MANUFACTURING COMPANY NAME) and I am authorized to prepare or direct the preparation of this application for product registration. I attest, under penalty of law, that this document and all attachments, are true, accurate, and complete."~~
- (m) ~~A signed and dated certification from the licensed professional engineer including the statement, "I certify that I represent (INSERT PROFESSIONAL ENGINEERING FIRM NAME), that I am authorized to certify the performance characteristics for the proprietary distribution product presented in this application. I attest, under penalty of law, that the technology report is true, accurate, and complete."~~
- (n) ) ) The fee established in WAC ~~((246-272A-0990))~~ 246-272-2000.
- (2) Products within a single series or model line, ~~((+))~~ sharing distinct similarities in design, materials, and capacities ~~((+))~~, may be registered under a single application. Products outside of the series or model line must be registered under separate applications.
- (3) Upon receipt of an application the department shall:
- (a) Verify that the application is complete, including dated and current copies of all required manuals; and
- (b) If ~~((complete))~~ approved, place the product on the list of ~~((proprietary))~~ registered on-site treatment and distribution products.
- (4) All registrations are valid for up to one year, expiring on December 31st of each year. Required fees are not prorated.
- (5) In order to renew a proprietary distribution product registration, a manufacturer ~~((must))~~ shall:
- (a) Apply for renewal of product registration using the form or in the format provided by the department;
- (b) Provide an ~~((affidavit))~~ attestation to the department verifying whether or not the product has changed over the previous year. If the product has changed, the ~~((affidavit))~~ attestation must also include a full description of the changes. If the product has changed in a way that affects performance, the product may not be renewed and shall meet the requirements of initial registration; ~~((and))~~
- (c) Provide a statement that all required dated manuals are current, or submit the updated and dated new manuals; and
- (d) Submit the fee established in WAC ~~((246-272A-0990))~~ 246-272-2000.
- (6) As part of product registration renewal, the department ~~((shall))~~ will:
- (a) Request field assessment comments from local health officers ~~((no later than October 31st))~~ before November 1st of each year. These comments may include concerns about a variety of field assessment is-

sues, including product function, product reliability, and problems arising with operation and maintenance;

(b) Discuss with the ~~((TAG))~~ TAG any field assessment information that may impact product registration renewal;

(c) Notify the manufacturer of any product to be discussed with the ~~((TAG))~~ TAG, prior to discussion with the ~~((TAG))~~ TAG, regarding the nature of comments received; ~~((and))~~

(d) Renew the product registration unless:

(i) The manufacturer of a product does not apply for renewal; or

(ii) The department, after deliberation with the ~~((TAG))~~ TAG, concludes product registration renewal should not be given or should be delayed until the manufacturer submits information that satisfactorily answers concerns and issues; and

(e) Provide a compliance plan to the manufacturer within 90 days based on departmental concerns of public health risk related to the product.

(7) The department shall maintain a list of proprietary distribution products meeting the registration requirements established in this chapter. The product registration is a condition of approval for use.

(8) Manufacturers shall have readily accessible product information for designers, ~~((homeowners,))~~ regulators, ~~((system))~~ OSS owners and other interested parties ~~((about their product))~~ posted on the manufacturer's website including the most current dated version of:

(a) Product manuals;

(b) Design instructions;

(c) Installation instructions;

(d) Operation and maintenance;

(e) ~~((Homeowner))~~ Owner instructions; and

(f) How to locate a list of representatives and manufacturer certified maintenance service providers, if any.

AMENDATORY SECTION (Amending WSR 05-15-119, filed 7/18/05, effective 7/1/07)

**WAC 246-272A-0170 Product development permits.** (1) A local health officer may issue a ~~((product development permit (PDP)))~~ PDP for any proprietary treatment component or sequence to be used during a development period. ~~((In order))~~ To protect public health during the development period, a complete ~~((system))~~ OSS meeting the requirements of this chapter and the site must already be installed. The ~~((product))~~ component or sequence under development may then be added to the treatment system allowing the ~~((product))~~ developer to gather data about ~~((the product's))~~ performance in the field. The PDP allows ~~((product))~~ developers to explore ~~((and develop))~~ new technologies prior to product testing and registration under WAC 246-272A-0110 and 246-272A-0120. The PDP is not an alternative to testing and registration.

(2) An ~~((application))~~ applicant for a PDP ~~((shall include))~~ must submit an application to the local health officer including all of the following:

(a) Proof of an existing conforming ~~((system))~~ OSS in compliance with all local requirements, or a permit for a conforming ~~((system))~~

OSS. The conforming (~~(system)~~) OSS must be installed in its entirety before the PDP becomes valid;

(b) A description of the product under development including performance goals and a description of how the system will be used to treat sewage;

(c) (~~(Documentation of)~~) Financial assurance (~~((that will cover))~~) covering the correction of any potential public health threats or environmental damage resulting from the use of the product under development. Instruments of financial assurance include:

(i) An irrevocable letter of credit in the amount required by the local health officer issued by an entity authorized to issue letters of credit in Washington state;

(ii) Cash or security deposit payable to the local health jurisdiction in the amount required by the local health officer; or

(iii) Any other financial assurance that satisfies the local health officer.

(d) Documentation signed by the owner of the proposed product development site allowing access to the local health officer for inspection of the site; and

(e) Any other information required by the local health officer.

(3) The local health officer may (~~(stipulate)~~) impose additional requirements for a PDP necessary to (~~(assure)~~) safeguard the performance of the conforming (~~(system)~~) OSS, including providing performance data to the local health officer.

(4) A PDP is a site-specific permit. Product development at multiple sites requires a PDP for each site.

(5) During the term of the PDP, product development, testing and sampling are under the full control of the product developer and all data collected is considered proprietary information.

(6) A PDP is valid for one year and may be renewed by the local health officer.

(7) The product development period is over when the original PDP or any subsequently renewed permits have expired. At this time, the product developer:

(a) Shall, at the direction of the local health officer, remove the product under development from the site, reestablishing all appropriate plumbing and power connections for the conforming (~~(system)~~) OSS.

(b) May subject the product to performance testing described in WAC 246-272A-0110 (~~(in order)~~) to allow the product to be eligible for registration with the department.

(8) The local health officer may revoke or amend a PDP:

(a) If the continued operation or presence of the product under development:

(i) Presents a risk to (~~(the)~~) public health or the environment;

(ii) Causes adverse effects on the proper function of the conforming (~~(system)~~) OSS on the site; or

(iii) Leaks or discharges sewage on the surface of the ground.

(b) If the developer fails to comply with any requirements stipulated on the permit by the local health officer.

(9) The local health officer may charge fees adequate to administer the PDP program.

**WAC 246-272A-0200 Permit requirements.** (1) ~~((Prior to beginning the construction process))~~ A permit is not required for a minor repair. The local health officer may require the owner to submit information regarding any activities defined as a minor repair for record-keeping purposes.

(2) Except for a minor repair, a person proposing the installation, repair, modification, connection to, or expansion of an OSS, shall ~~((report the following))~~ submit an application and obtain a permit from the local health officer prior to beginning construction. The permit application must include the following:

(a) General information including:

(i) Name and address of the property owner and the applicant at the head of each page of the submission;

(ii) Parcel number and if available, the address of the site;

(iii) Source of drinking water supply;

(iv) Identification if the property is within the boundaries of a recognized sewer utility;

(v) Size of the parcel;

(vi) Type of permit for which application is being made ~~((τ))~~. For example, new installation, repair, expansion, modification, or operational;

(vii) Source of sewage ~~((τ))~~. For example, residence, restaurant, or other type of business;

(viii) Location of utilities;

(ix) Name of the site evaluator;

(x) Name, signature and stamp of the designer;

(xi) Date of application; and

(xii) Name and signature of the fee simple owner, the contract purchaser of the property, or the owner's authorized agent.

(b) The soil and site evaluation as specified under WAC 246-272A-0220 ~~((τ))~~;

(c) A dimensioned site plan of the proposed initial ~~((system))~~ OSS, the reserve area and those areas immediately adjacent that contain characteristics impacting design including:

(i) Designated areas for the proposed initial ~~((system))~~ OSS and the reserve area;

(ii) The location of all soil logs and other soil tests for the OSS;

(iii) General topography and ~~((τ))~~ slope;

(iv) Drainage characteristics;

(v) Horizontal separations as noted in Table IV in WAC 246-272-0210;

(vi) The location of existing and proposed encumbrances affecting ~~((system))~~ OSS placement, including legal access documents if any component of the OSS is not on the lot where the sewage is generated;  
~~((and~~

~~((vi))~~ (vii) An arrow indicating north;

(viii) A legend of symbols used;

(ix) Plan scale and a graphic scale bar;

(x) Vertical datum used (such as "assumed," "North American Vertical Datum of 1988 (NAVD 88)," "National Shoreline Reference Station (NSRS)," or "unknown");

(xi) An elevation benchmark and relative elevations of system components;

(xii) Name, signature, stamp, and contact information of the designer; and

(xiii) A statement on limitation of use indicating the site plan is not a survey.

(d) A detailed ~~((system))~~ OSS design meeting the requirements under WAC 246-272A-0230, 246-272A-0232, 246-272A-0234, and 246-272A-0238 including:

(i) A drawing showing the dimensioned location of components of the proposed OSS, and the system designed for the reserve area if reserve site characteristics differ significantly from the initial area;

(ii) Vertical cross-section drawings showing:

(A) The depth of the soil dispersal component, the vertical separation, and depth of cover material; and

(B) Other new OSS components constructed at the site.

(iii) Calculations and assumptions supporting the proposed design, including:

(A) System operating capacity and design flow;

(B) Soil type; ~~((and))~~

(C) Hydraulic loading rate in the soil dispersal component; and

(e) Any additional information as deemed necessary by the local health officer.

~~((2) A permit is not required for replacement, addition, or modification of broken or malfunctioning building sewers, risers and lids, sewage tank lids, sewage tank baffles, sewage tank pumps, pump control floats, pipes connecting multiple sewage tanks, and OSS inspection boxes and ports where a sewage tank, treatment component, or soil dispersal component does not need to be replaced. The local health officer may require the owner to submit information regarding these activities for recordkeeping purposes.))~~

(3) The local health officer may develop the information required in subsection ~~((1))~~ (2) of this section if authorized by local ~~((regulations))~~ rules.

(4) The local health officer shall:

(a) Respond to an application within ~~((thirty))~~ 30 days as required in RCW 70.05.074~~((-))~~;

(b) Permit only public domain treatment technologies that ~~((have departmental RS&G.))~~ are described in this chapter or in a current DS&G;

(c) Permit only proprietary products that are registered by the department~~((. During the period of transition from the list of approved systems and products to the registered list, the local health officer may permit products on the list of approved systems and products.~~

~~((e))~~;

(d) Issue a permit when the information submitted under subsection (1) of this section meets the requirements contained in this chapter and in local ~~((regulations))~~ rules;

~~((d))~~ (e) Identify the permit as a new installation, repair, expansion, modification, or operational permit;

~~((e))~~ (f) Specify the expiration date on the permit. The expiration date may not exceed five years from the date of permit issuance;

~~((f))~~ (g) Include a reminder on the permit application of the applicant's right of appeal; and

~~((g))~~ (h) If requiring an operational permit, state the period of validity and the date and conditions of renewal including any required field compliance.

(5) The local health officer may revoke or deny a permit for just cause. Examples include, but are not limited to:

(a) Construction or continued use of an OSS that threatens ~~(the)~~ public health;

(b) Misrepresentation or concealment of material fact in information submitted to the local health officer; or

(c) ~~((Failure to meet))~~ Noncompliance with the conditions of the permit, this chapter or any local ~~((regulations))~~ rules.

(6) ~~((Before the local health officer issues a permit for the installation of an OSS to serve more than one development, the applicant shall show:~~

~~(a) An approved public entity owning or managing the OSS in perpetuity; or~~

~~(b) A management arrangement acceptable to the local health officer, recorded in covenant, lasting until the on-site system is no longer needed, and containing, but not limited to:~~

~~(i) A recorded easement allowing access for construction, operation, monitoring maintenance, and repair of the OSS; and~~

~~(ii) Identification of an adequate financing mechanism to assure the funding of operation, maintenance, and repair of the OSS.)~~ An applicant for a permit to install an OSS serving more than one development must submit an application that proves the OSS:

(a) Is owned or managed in perpetuity by a public entity;

(b) Is described in a separate writing including, but not limited to, an easement, covenant, contract, or other legal document authorizing access for construction, operation maintenance, and repair; and

(c) If owned privately, is adequately financed.

(7) The local health officer shall not delegate the authority to issue permits.

(8) The local health officer may stipulate additional requirements for a particular permit if necessary ~~((for))~~ to protect public health ~~((protection))~~.

AMENDATORY SECTION (Amending WSR 05-15-119, filed 7/18/05, effective 7/1/07)

**WAC 246-272A-0210 Location.** (1) ~~((Persons))~~ OSS shall ~~((design and install OSS))~~ be designed and installed to meet at least the minimum horizontal separations shown in Table IV, Minimum Horizontal Separations:

**Table IV  
Minimum Horizontal Separations**

Items Requiring Setback	From edge of soil dispersal component and reserve area	From sewage tank and distribution box	From building sewer, and nonperforated distribution pipe
Well <del>((or suction line))</del>	100 ft.	50 ft.	50 ft.
Public drinking water well	100 ft.	100 ft.	100 ft.
<u>Nonpublic drinking water well</u>	<u>100 ft.</u>	<u>50 ft.</u>	<u>50 ft.</u>
Public drinking water spring or surface water measured from the ordinary high-water mark	200 ft.	200 ft.	100 ft.



Items Requiring Setback	From edge of soil dispersal component and reserve area	From sewage tank and distribution box	From building sewer, and nonperforated distribution pipe
<u>Nonpublic drinking water spring or surface water ((used as drinking water source)) measured from the ordinary high-water mark<sup>1</sup></u>	100 ft.	50 ft.	50 ft.
<u>Nonpublic, in-ground, drinking water containment vessel<sup>3</sup></u>	<u>20 ft.</u>	<u>10 ft.</u>	<u>10 ft.</u>
<u>Pressurized water supply line or easement for water supply line</u>	10 ft.	10 ft.	10 ft.
<u>Closed geothermal loop<sup>4</sup> or pressurized nonpotable water line</u>	<u>10 ft.</u>	<u>10 ft.</u>	<u>10 ft.</u>
Decommissioned well (decommissioned in accordance with chapter 173-160 WAC)	10 ft.	N/A	N/A
Surface water measured from the ordinary high-water mark	100 ft.	50 ft.	10 ft.
Building foundation/in-ground swimming pool	10 ft.	5 ft.	2 ft.
Property or easement line	5 ft.	5 ft.	N/A
<u>Lined<sup>5</sup> stormwater detention pond<sup>6</sup></u>			
<u>Down-gradient<sup>7</sup>:</u>	<u>30 ft.</u>	<u>N/A</u>	<u>N/A</u>
<u>Up-gradient<sup>7</sup>:</u>	<u>10 ft.</u>	<u>N/A</u>	<u>N/A</u>
<u>Unlined<sup>8</sup> stormwater infiltration pond<sup>6</sup> (up or down-gradient)<sup>7</sup></u>	<u>100 ft.</u>	<u>50 ft.</u>	<u>10 ft.</u>
<u>Irrigation canal or irrigation pond (up or down-gradient)</u>	<u>100 ft.</u>	<u>50 ft.</u>	<u>10 ft.</u>
Interceptor/curtain drains/foundation drains/drainage ditches			
Down-gradient <sup>2</sup> :	30 ft.	5 ft.	N/A
Up-gradient <sup>2</sup> :	10 ft.	N/A	N/A
<u>Subsurface stormwater infiltration or dispersion component<sup>6</sup></u>			
<u>Down-gradient<sup>7</sup>:</u>	<u>30 ft.</u>	<u>10 ft.</u>	<u>N/A</u>
<u>Up-gradient<sup>7</sup>:</u>	<u>30 ft.</u>	<u>10 ft.</u>	<u>N/A</u>
Other site features that may allow effluent to surface			
Down-gradient <sup>2</sup> :	30 ft.	5 ft.	N/A
Up-gradient <sup>2</sup> :	10 ft.	N/A	N/A
Down-gradient cuts or banks with at least 5 ft. of original, undisturbed soil above a restrictive layer due to a structural or textural change	25 ft.	N/A	N/A
Down-gradient cuts or banks with less than 5 ft. of original, undisturbed soil above a restrictive layer due to a structural or textural change	50 ft.	N/A	N/A
<u>((Other adjacent)) Soil dispersal components((-subsurface stormwater infiltration systems)) serving a separate OSS</u>	10 ft.	N/A	N/A

<sup>1</sup> If surface water is used as a public drinking water supply, the designer shall locate the OSS outside of the required source water protection area.

<sup>2</sup> The item is down-gradient when liquid will flow toward it upon encountering a water table or a restrictive layer. The item is up-gradient when liquid will flow away from it upon encountering a water table or restrictive layer.

(2) ((If any condition indicates)) When conditions indicate a greater potential for contamination or pollution, the local health officer may increase the minimum horizontal separations. Examples of

such conditions include, but are not limited to, excessively permeable soils, unconfined aquifers, shallow or saturated soils, dug wells, and improperly abandoned wells.

(3) The local health officer may allow a reduced horizontal separation to not less than two feet from where the property line, easement line, ~~((in-ground swimming pool,))~~ or building foundation is up-gradient.

(4) The local health officer may require an applicant to demonstrate the OSS meets (a), (b), or (c) of this subsection when determining if a horizontal separation to a minimum of 75 feet between an OSS dispersal component and ~~((an individual))~~ a water well, ~~((individual))~~ spring, or surface water that is not a public water source ~~((can be reduced to a minimum of seventy-five feet, by the local health officer, and be described as a conforming system upon signed approval by the health officer if the applicant demonstrates))~~ is allowed:

(a) Adequate protective site-specific conditions, such as physical settings with low ~~((hydro-geologic))~~ hydrogeologic susceptibility from contaminant infiltration. Examples of such conditions include evidence of confining layers ~~((and/or aquatards separating)),~~ an aquatard that separates potable water from the OSS treatment zone, excessive depth to groundwater, down-gradient contaminant source, or outside the zone of influence; or

(b) Design and proper operation of an OSS ~~((system-assuring))~~ with enhanced treatment performance beyond that accomplished by meeting the vertical separation and effluent distribution requirements described in Table VI in WAC 246-272A-0230 ~~((Table VI));~~ or

(c) Evidence ~~((of protective conditions involving both))~~ the OSS satisfies the requirements of (a) and (b) of this subsection.

(5) Persons shall design ~~((and/))~~ or install a soil dispersal component only if:

(a) The slope is less than ~~((forty-five))~~ 45 percent ~~((+twenty-four))~~ or 24 degrees ~~((+))~~;

(b) The area is not subject to:

(i) Encroachment by buildings or construction such as placement of power poles and underground utilities;

(ii) Cover by impervious material;

(iii) Vehicular traffic; or

(iv) Other activities adversely affecting the soil or the performance of the OSS.

(c) Sufficient reserve area for replacement exists to treat and dispose one hundred percent of the design flow;

(d) The land is stable; and

(e) Surface drainage is directed away from the site.

(6) The local health officer may approve a sewer transport line within ten feet of a water supply line if the sewer line is constructed in accordance with section ~~((C1-9))~~ C1-9.1 of the department of ecology's "*Criteria For Sewage Works Design,*" ~~((December 1998))~~ 2008.

AMENDATORY SECTION (Amending WSR 05-15-119, filed 7/18/05, effective 7/1/07)

**WAC 246-272A-0220 Soil and site evaluation.** (1) Only professional engineers, designers, or local health officers may perform soil

and site evaluations. Soil scientists may only perform soil evaluations.

(2) The person evaluating the soil and site shall:

(a) Report:

(i) A sufficient number of soil logs to evaluate conditions within:

(A) The initial soil dispersal component; and

(B) The reserve area.

(ii) The groundwater conditions, the date of the observation, and the probable maximum height;

(iii) The topography of the proposed initial ~~((system))~~ OSS, the reserve area, and those areas immediately adjacent that contain characteristics impacting the design;

(iv) The drainage characteristics of the proposed initial ~~((system))~~ OSS, the reserve area and those areas immediately adjacent that contain characteristics impacting the design;

(v) The existence of structurally deficient soils subject to major wind or water erosion events such as slide zones and dunes;

(vi) The existence of designated flood plains ~~((and))~~;

(vii) Other areas identified in the local management plan required in WAC 246-272A-0015; and

~~((vii))~~ (viii) The location of existing features affecting ~~((system))~~ OSS placement, such as, but not limited to:

(A) Wells ~~((and suction lines))~~;

(B) Water sources and supply lines;

(C) Surface water and stormwater infiltration areas;

(D) Abandoned wells;

(E) Outcrops of bedrock and restrictive layers;

(F) Buildings;

(G) Property lines and lines of easement;

(H) Interceptors such as footing drains, curtain drains, and drainage ditches;

(I) Cuts, banks, and fills;

(J) Driveways and parking areas;

(K) Existing OSS; and

(L) Underground utilities;

(b) Use the soil and site evaluation procedures and terminology in accordance with Chapter 5 of the *On-site Wastewater Treatment Systems Manual*, EPA 625/R-00/008, February 2002 except where modified by, or in conflict with, this chapter ~~((available upon request to the department))~~;

(c) Use the soil names and particle size limits of the United States Department of Agriculture Natural Resources Conservation Service classification system;

(d) Determine texture, structure, compaction, and other soil characteristics that affect the treatment and water movement potential of the soil by using normal field ~~((and/))~~ or laboratory procedures such as particle size analysis; and

(e) Classify the soil as in Table V, Soil Type Descriptions:

~~((table v))~~ **Table V**  
**Soil Type Descriptions**

Soil Type	Soil Textural Classifications
1	Gravelly and very gravelly coarse sands, all extremely gravelly soils excluding those with soil types 5 and 6 as the nongravel portion, and all soil types with greater than or equal to 90% rock fragments.
2	Coarse sands.
3	Medium sands, loamy coarse sands, loamy medium sands.
4	Fine sands, loamy fine sands, sandy loams, loams.
5	Very fine sands, loamy very fine sands; or silt loams, sandy clay loams, clay loams and silty clay loams with a moderate or strong structure (excluding platy structure).
6	Other silt loams, sandy clay loams, clay loams, silty clay loams.
7 <b>Unsuitable for treatment or dispersal</b>	Sandy clay, clay, silty clay, strongly cemented or firm soils, soil with a moderate or strong platy structure, any soil with a massive structure, any soil with appreciable amounts of expanding clays.

(3) The owner of the property or (~~his~~) the owner's agent shall:

(a) Prepare the soil log excavation to:

(i) Allow examination of the soil profile in its original position by:

(A) Excavating pits of sufficient dimensions to enable observation of soil characteristics by visual and tactile means to a depth three feet deeper than the anticipated infiltrative surface at the bottom of the soil dispersal component; or

(B) Stopping at a shallower depth if a water table or restrictive layer is encountered;

(ii) Allow determination of the soil's texture, structure, color, bulk density or compaction, water absorption capabilities or permeability, and elevation of the highest seasonal water table; and

(b) Assume responsibility for constructing and maintaining the soil log excavation in a manner to prevent injury as required by chapter 296-155 WAC.

(4) The local health officer:

(a) Shall render a decision on the height of the water table within (~~twelve~~) 12 months of receiving the application under precipitation conditions typical for the region;

(b) May require water table measurements to be recorded during months of probable high-water table conditions, if insufficient information is available to determine the highest seasonal water table;

(c) May require any other soil and site information affecting location, design, or installation; (~~and~~)

(d) May reduce the required number of soil logs for OSS serving a single-family residence if adequate soils information has previously been developed; and

(e) May require another site and soil evaluation if the site has been altered since the initial site and soil evaluation was submitted to the local health officer.

AMENDATORY SECTION (Amending WSR 05-15-119, filed 7/18/05, effective 7/1/07)

**WAC 246-272A-0230 Design requirements—General.** (1) ~~((On-site sewage systems may))~~ OSS must only be designed by professional engineers, licensed under chapter 18.43 RCW, or ((on-site sewage treatment system)) OSS designer((s)), licensed under chapter 18.210 RCW, except:

(a) ~~If at the discretion of the local health officer, a resident owner of a single-family residence not ((adjacent to)) within 200 feet of a marine shoreline is allowed to design ((a system))~~ an OSS for that residence; or

(b) ~~If the local health officer performs the soil and site evaluation, the health officer ((is allowed to))~~ may design ((a system)) the OSS.

(2) The designer shall use the following criteria when developing a design for an OSS:

(a) All sewage from the building served is directed to the OSS;

(b) ~~Sewage tanks ((have been reviewed and approved by the department))~~ are in compliance with chapter 246-272C WAC;

(c) Drainage from the surface, footing drains, roof drains, sub-surface stormwater infiltration systems, and other nonsewage drains is prevented from entering the OSS, the area where the OSS is located, and the reserve area;

(d) The OSS is designed to treat and disperse the sewage volume as follows:

(i) For single-family residences:

~~(A) The operating capacity is based on 45 gpd per capita with two people per bedroom((-));~~ ;

~~(B) The minimum design flow per bedroom per day is the operating capacity of ((ninety)) 90 gallons multiplied by 1.33 to account for a 33 percent surge capacity. This results in a minimum design flow of ((one hundred twenty)) 120 gallons per bedroom per day((-));~~ ;

~~(C) ((A factor greater than 0.33 to account for surge capacity may be required by))~~ The local health officer((-)) may require a factor greater than 33 percent to account for surge capacity;

~~(D) The minimum design flow of the OSS is 240 gpd; and~~

~~(E) The local health officer may require an increase of the design flow for dwellings with anticipated greater flows, such as larger dwellings((-~~

~~day-)); or~~

(ii) For single-family residences with one additional dwelling served by the same OSS:

~~(A) All requirements in (d)(i) of this subsection apply;~~

~~(B) The minimum design flow for one additional dwelling is 120 gallons per bedroom; and~~

~~(C) The local health officer may require an increase of the design flow for dwellings with anticipated greater flows; or~~

(iii) For three or more dwellings served by the same OSS:

~~(A) All requirements in (d)(i) of this subsection apply;~~  
~~(B) The minimum design flow for the first dwelling is 240 gallons per day;~~

~~(C) The minimum design flow for each additional dwelling is 120 gallons per bedroom;~~

~~(D) The local health officer may require an increase of the design flow for dwellings with anticipated greater flows; and~~

~~(E) The local health officer shall require documentation including, but not limited to, an easement, covenant, contract, or other legal document authorizing access for construction, operation, maintenance, and repair; or~~

(iv) For other facilities, the design flows noted in "On-site Wastewater Treatment Systems Manual," USEPA, EPA-625/R-00/008, February 2002 (~~(available upon request to the department) shall~~) must be used. Sewage flows from other sources of information may be used in determining system design flows if they incorporate both an operating capacity and a surge capacity~~((-))~~;

(e) The OSS is designed to address sewage quality as follows:

(i) For all systems, the designer shall consider:

~~(A) CBOD<sub>5</sub>, TSS, and O&G;~~

~~(B) Other parameters that can adversely affect treatment anywhere along the treatment component sequence. Examples include pH, temperature, and dissolved oxygen;~~

~~(C) The sensitivity of the site where the OSS will be installed. Examples include areas where fecal coliform constituents can result in public health concerns, such as shellfish growing areas, designated swimming areas, and other areas identified by the local management plan required in WAC 246-272A-0015~~((-))~~; and~~

~~(D) Nitrogen contributions. Where nitrogen has been identified as a contaminant of concern by the local management plan required in WAC 246-272A-0015, it ~~((shall))~~ must be addressed through lot size ~~((and/or))~~, treatment, or both.~~

(ii) For OSS treating sewage from a nonresidential source, the designer shall provide the following information showing:

~~(A) ~~((Information to show))~~ The sewage is not industrial wastewater;~~

~~(B) ~~((Information regarding))~~ The sewage effluent quality and identifying chemicals found in the sewage ~~((that))~~ effluent are not found in sewage effluent from a residential source; and~~

~~(C) A site-specific design providing the necessary treatment ~~((level equal to that required of))~~ equaling required treatment of sewage effluent quality from a residential source;~~

(f) The vertical separation ~~((to be))~~ used to establish the treatment levels and application rates. The selected vertical separation ~~((shall))~~ must be used consistently throughout the design process~~((-))~~; and

(g) Treatment levels:

(i) Requirements for matching treatment component and method of distribution with soil conditions of the soil dispersal component are listed in Table VI of this section. The treatment levels correspond with those established for treatment components under the product performance testing requirements in Table III of WAC 246-272A-0110. The method of distribution applies to the soil dispersal component.

(ii) Disinfection may not be used ~~((to achieve the fecal coliform requirements to meet:~~

~~(A) Treatment levels A or B in Type 1 soils; or~~

- ~~(B) Treatment level C~~ ) :  
(A) To achieve DL1 or DL2 in type 1 soils; or  
(B) DL3.

~~((TABLE VI))~~ **Table VI**  
**Treatment Component Performance Levels and**  
**Method of Distribution<sup>1</sup>**

Vertical Separation in inches	Soil Type		
	1	2	3-6
12 < 18	A & DL1 - pressure with timed dosing	B & DL2 - pressure with timed dosing	B & DL2 - pressure with timed dosing
≥18 < 24	B & DL2 - pressure with timed dosing	<del>((B))</del> C & DL3 - pressure with timed dosing	<del>((B))</del> C & DL3 - pressure with timed dosing
≥24 < 36	B & DL2 - pressure with timed dosing	C & DL3 - pressure with timed dosing	E - pressure with timed dosing
≥36 < 60	B & DL2 - pressure with timed dosing	E - pressure	E - gravity
≥60	C & DL2 - pressure	E - gravity	E - gravity

<sup>1</sup>The treatment component performance levels correspond with those established for treatment components under the product testing requirements in WAC 246-272A-0110.

(3) The coarsest textured soil within the vertical separation selected by the designer (~~(shall)~~) determines the minimum treatment level and method of distribution.

(4) The local health officer shall not approve designs for:

- (a) Cesspools; or
- (b) Seepage pits.

(5) The local health officer may approve a design for the reserve area different from the design approved for the initial OSS, if both designs meet the requirements of this chapter for new construction.

AMENDATORY SECTION (Amending WSR 05-15-119, filed 7/18/05, effective 7/1/07)

**WAC 246-272A-0232 Design requirements—Septic tank sizing.** Septic tanks (~~(shall)~~) must:

(1) Have at least two compartments with the first compartment liquid volume equal to one-half to two-thirds of the total liquid volume. This standard may be met by one tank with two compartments or by two single compartment tanks in series.

(2) Have the following minimum liquid volumes:

(a) For a single-family residence use Table VII, Required Minimum Liquid Volumes of Septic Tanks:

~~((TABLE VII))~~ **Table VII**

**Required Minimum Liquid Volumes of Septic Tanks**

<b>Number of Bedrooms</b>	<b>Required Minimum Liquid Tank Volume in Gallons</b>
<del>(3)</del>	900
4	<del>1000</del> )
<u>≤4</u>	<u>1,000</u>
<b>Each additional bedroom</b>	250

(b) For OSS treating sewage from a residential source, other than one single-family residence, ~~((two hundred fifty))~~ 250 gallons per bedroom with a minimum of ~~((one thousand))~~ 1,000 gallons;

(c) For OSS treating sewage from a nonresidential source, three times the design flow.

(3) Comply with chapter 246-272C WAC.

NEW SECTION

**WAC 246-272A-0233 Design requirements—Pump chambers.** (1) All pump chambers, except pump basins, must be designed to meet the following requirements:

(a) Have a minimum volume of 1,000 gallons;

(b) Provide an internal volume to account for the design flow, full-time pump submergence, space for sludge accumulation below the pump inlet and emergency storage volume of at least 75 percent of the design flow;

(c) Follow any applicable DS&G or proprietary product design manual for all OSS components included in the pump chamber; and

(d) Comply with chapter 246-272C WAC.

(2) For the purposes of this section, "pump basin" means a water-tight receptacle that contains a pump to convey sewage from a limited use area that is separate from the main wastewater sewer pipe leaving a structure, to the main treatment component of an OSS; typically much smaller than a pump chamber and separate from the main sewer pipe due to elevation restrictions. Pump basins are intended for limited, specialized uses, and not intended as a replacement or substitute for a pump chamber. Pump basins must be in compliance with chapter 246-272C WAC.

AMENDATORY SECTION (Amending WSR 05-15-119, filed 7/18/05, effective 7/1/07)

**WAC 246-272A-0234 Design requirements—Soil dispersal components.** (1) All soil dispersal components, except one using a subsurface dripline product, ~~((shall))~~ must be designed to meet the following requirements:

(a) Maximum hydraulic loading rates ~~((shall be based on the rates))~~ described in Table VIII, Maximum Hydraulic Loading Rate;

~~((TABLE VIII))~~



**Table VIII**  
**Maximum Hydraulic Loading Rate**

		<u>Column A</u>	<u>Column B</u>
<u>Soil Type</u>	<u>Soil Textural Classification Description</u>	<u>Loading Rate for Residential Septic Tank Effluent Using Gravity or Pressure Distribution gal./sq. ft./day</u>	<u>Loading Rate for Residential Effluent Meeting Treatment Level C &amp; DL3 or Higher Effluent Quality Using Pressure Distribution gal./sq. ft./day</u>
1	Gravelly and very gravelly coarse sands, all extremely gravelly soils excluding those with soil types 5 & 6 as the nongravel portion, all soil types with greater than or equal to 90% rock fragments.	1.0	<u>1.2</u>
2	Coarse sands.	1.0	<u>1.2</u>
3	Medium sands, loamy coarse sands, loamy medium sands.	0.8	<u>1.0</u>
4	Fine sands, loamy fine sands, sandy loams, loams.	0.6	<u>0.8</u>
5	Very fine sands, loamy very fine sands; or silt loams, sandy clay loams, clay loams and silty clay loams with a moderate structure or strong structure (excluding a platy structure).	0.4	<u>0.56</u>
6	Other silt loams, sandy clay loams, clay loams, silty clay loams.	0.2	<u>0.2</u>
7	Sandy clay, clay, silty clay and strongly cemented firm soils, soil with a moderate or strong platy structure, any soil with a massive structure, any soil with appreciable amounts of expanding clays.	<del>((Not suitable))</del> <u>Unsuitable</u>	<u>Unsuitable</u>

(b) Calculation of the absorption area is based on:

(i) The design flow in WAC 246-272A-0230(2); and

(ii) Loading rates equal to or less than those in Table VIII of this section as applied to the infiltrative surface of the soil dispersal component or the finest textured soil within the vertical separation selected by the designer, whichever has the finest texture.

(c) Requirements for the method of distribution (~~((shall))~~) must correspond to those in WAC 246-272A-0230, Table VI.

(d) Soil dispersal components having daily design flow between (~~((one thousand and three thousand five hundred))~~) 1,000 and 3,500 gallons of sewage per day (~~((shall))~~) must:

(i) Only be located in soil types 1-5;

(ii) Only be located on slopes of less than (~~((thirty))~~) 30 percent, or (~~((seventeen))~~) 17 degrees; and

(iii) Have pressure distribution including time dosing.

(2) The local health officer may allow the maximum hydraulic loading rates in Table VIII of this section. Loading rates identified in Column B must not be combined with any dispersal component size reductions.

(3) All soil dispersal components using a subsurface dripline product must be designed to meet the following requirements:

(a) ~~((Calculation of))~~ The absorption area calculation is based on:

(i) The design flow in WAC 246-272A-0230(2); and  
(ii) Loading rates ~~((that are))~~ dependent on the soil type, other soil and site characteristics, and the spacing of dripline and emitters as directed in Table VIII of this section;

~~(b) ((The dripline must be installed))~~ A minimum installation of six inches into original, undisturbed soil;

(c) Timed dosing; and

~~(d) ((Soil dispersal components having))~~ Daily design flows greater than ~~((one thousand))~~ 1,000 gallons of sewage per day ~~((may))~~:

(i) ~~((Only be))~~ Located only in soil types 1-5;

(ii) ~~((Only be))~~ Located only on slopes of less than ~~((thirty))~~ 30 percent, or ~~((seventeen))~~ 17 degrees.

~~((3))~~ (4) All SSAS ~~((shall))~~ must meet the following requirements:

(a) The infiltrative surface may not be deeper than three feet below the finished grade, except under special conditions approved by the local health officer. The depth of such system ~~((shall))~~ must not exceed ~~((ten))~~ 10 feet from the finished grade;

(b) A minimum of six inches of sidewall must be located in ~~((original undisturbed))~~ suitable soil;

(c) Beds are only designed in soil types 1, 2, 3 or in fine sands with a width not exceeding ~~((ten))~~ 10 feet. Gravity beds must have a minimum of one lateral for every three feet in width;

(d) Individual laterals greater than ~~((one hundred))~~ 100 feet in length must use pressure distribution;

(e) A layer of between six and ~~((twenty-four))~~ 24 inches of cover material; and

(f) Other features ~~((shall))~~ must conform with the "On-site Wastewater Treatment Systems Manual," United States Environmental Protection Agency EPA-625/R-00/008 February 2002 ~~((available upon request to the department))~~ except where modified by, or in conflict with this section or local ~~((regulations))~~ rules.

~~((4) For))~~ (5) SSAS with drainrock and distribution pipe must meet the following requirements:

(a) A minimum of two inches of drainrock ~~((is required))~~ above the distribution pipe;

(b) A minimum of six inches of drainrock below the distribution pipe; and

(c) Location of the sidewall below the invert of the distribution pipe ~~((is located))~~ in original undisturbed soil.

~~((5))~~ (6) The local health officer may allow the infiltrative surface area in a SSAS to include six inches of the SSAS sidewall height when meeting the required absorption area where total recharge by annual precipitation and irrigation is less than ~~((twelve))~~ 12 inches per year.

~~((6))~~ (7) The local health officer may permit ~~((systems))~~ OSS consisting ~~((solely))~~ of ~~((a))~~ septic tanks and a gravity SSAS in soil type 1 if all the following criteria are met:

(a) The ~~((system))~~ OSS serves a single-family residence;

(b) The lot size is ~~((greater than))~~ two and one-half acres or larger;

(c) Annual precipitation in the region is less than ~~((twenty-five))~~ 25 inches per year ~~((as described by "Washington Climate" published jointly by the Cooperative Extension Service, College of Agriculture, and Washington State University (available for inspection at~~

Washington state libraries)) from a reputable source approved by the local health officer;

(d) The ~~((system))~~ OSS is located outside the ~~((twelve))~~ 12 counties bordering Puget Sound; and

(e) The geologic conditions beneath the dispersal component must satisfy the minimum unsaturated depth requirements to groundwater as determined by the local health officer. The method for determination is described by "*Design Guideline for Gravity Systems in Soil Type 1,*" ~~((available upon request to the department))~~ 2017.

~~((7))~~ The local health officer may increase the loading rate in Table VIII up to a factor of two for soil types 1-4 and up to a factor of 1.5 for soil types 5 and 6 if a product tested to meet treatment level D is used. This reduction may not be combined with any other SSAS size reductions.

~~(8)(a))~~ (8) Both the primary and reserve areas must be sized ~~((to))~~ at least ~~((one hundred))~~ 100 percent of the approved loading rates ~~((listed in Table VIII.~~

~~(b)~~ However, the local health officer may allow a legal lot of record created prior to the effective date of this chapter that cannot meet this primary and reserve area requirement to be developed if all the following conditions are met:

~~(i)~~ The lot cannot meet the minimum primary and reserve area requirements due to the loading rates for medium sand, fine sand and very fine sand listed in Table VIII of this chapter;

~~(ii)~~ The primary and reserve areas are sufficient to allow installation of a SSAS using maximum loading rates of 1.0 gallons/square foot per day for medium sand, 0.8 gallons/square foot/day for fine sand, and 0.6 gallons/square foot/day for very fine sand; and

~~(iii)~~ A treatment product meeting at least Treatment Level D and pressure distribution with timed dosing is used). The local health officer may require the sizing of the reserve area using the loading rate in Table VIII of this section. Column A must be used when sizing the primary area using Column B.

AMENDATORY SECTION (Amending WSR 05-15-119, filed 7/18/05, effective 7/1/07)

**WAC 246-272A-0238 Design requirements—Facilitate operation, monitoring and maintenance.** (1) The OSS must be designed to facilitate routine operation, monitoring and maintenance according to the following criteria:

(a) For gravity ~~((systems, septic))~~ OSS:

(i) Sewage tank access for maintenance and inspection at finished grade is required. ~~((If effluent filters are used, access to the filter at finished grade is required.))~~ The local health officer may allow access for maintenance and inspection of a ~~((system consisting of a septic))~~ sewage tank ~~((and gravity flow SSAS))~~ to be a maximum of six inches below finished grade provided a marker showing the location of the tank access is installed at finished grade.

(ii) Each SSAS lateral must include at least one observation port installed in a representative location in order to facilitate SSAS monitoring.

(b) For all other ~~((systems))~~ OSS, service access and monitoring ports at finished grade are required for all system components. Specific component requirements include:

(i) Septic tanks must have service access maintenance holes ~~(formerly manholes)~~ and monitoring ports for the inlet and outlet ~~((  
If effluent filters are used, access to the filter at finished grade is required))~~);

(ii) Surge, flow equalization or other sewage tanks must have service access ~~((manholes))~~ maintenance holes;

(iii) Other pretreatment units ~~((+))~~ such as aerobic treatment units and packed-bed filters ~~((+))~~ must have service access ~~((manholes))~~ maintenance holes and monitoring ports;

(iv) Pump chambers, tanks and vaults must have service access ~~((manholes))~~ maintenance holes;

(v) Disinfection units must have service access and be installed to facilitate complete maintenance and cleaning, including an easy-access, freefall sampling port; and

(vi) Soil dispersal components ~~((shall))~~, excluding subsurface drip, must have monitoring ports for both distribution devices and the infiltrative surface.

(c) For systems using pumps, clearly accessible controls and warning devices are required including:

(i) Process controls such as float and pressure activated pump on/off switches, pump-run timers and process flow controls;

(ii) Diagnostic tools including dose cycle counters and hour meters on the sewage stream, or flow meters on either the water supply or sewage stream; and

(iii) Audible and visual alarms designed to alert a resident of a malfunction. The alarm must be placed on a circuit independent of the pump circuit.

(2) All accesses must be designed to allow for monitoring and maintenance and shall be secured to minimize injury or unauthorized access in a manner approved by the local health officer.

AMENDATORY SECTION (Amending WSR 05-15-119, filed 7/18/05, effective 7/1/07)

**WAC 246-272A-0240 Holding tank sewage systems.** (1) A person may not install or use holding tank sewage systems for residential development or expansion of residences, whether seasonal or year-round, except as set forth under subsection (2) of this section.

(2) The local health officer may approve installation of holding tank sewage systems only:

(a) For permanent uses limited to controlled, part-time, commercial usage situations, such as recreational vehicle parks and trailer dump stations;

(b) For interim uses limited to handling of emergency situations;

or

(c) For repairs as permitted under WAC 246-272A-0280 (1) ~~((+))~~

(d) (i).

(3) A person proposing to use a holding tank sewage system shall:

(a) Follow design criteria established by the department;

(b) Submit a management program to the local health officer assuring ongoing operation, monitoring and maintenance before the local health officer issues the installation permit; and

(c) Use a holding tank reviewed and approved by the department.

AMENDATORY SECTION (Amending WSR 05-15-119, filed 7/18/05, effective 7/1/07)

**WAC 246-272A-0250 Installation.** (1) Only installers may construct OSS, except as noted under subsection (2) of this section.

(2) The local health officer may allow the resident owner of a single-family residence (~~((not adjacent to a marine shoreline))~~) to install the OSS for that single-family residence except when:

(a) The primary and reserve areas are within 200 feet of marine water;

(b) The primary and reserve areas are within 100 feet of surface water; or

(c) The installation permit meets Table IX standards in WAC 246-272A-0270.

(3) The installer described by either subsection (1) or (2) of this section shall:

(a) Follow the approved design;

(b) Have the approved design in possession during installation;

(c) Make no changes to the approved design without the prior authorization of the designer and the local health officer;

(d) Only install (~~((septic tanks, pump chambers, and holding))~~) sewage tanks approved by the department consistent with chapter 246-272C WAC;

(e) Be on the site at all times during the excavation and construction of the OSS;

(f) Install the OSS to be watertight, except for the soil dispersal component;

(g) Cover the installation only after the local health officer has given approval to cover; and

(h) Back fill with six to (~~((twenty-four))~~) 24 inches of cover material and grade the site to prevent surface water from accumulating over any component of the OSS.

AMENDATORY SECTION (Amending WSR 05-15-119, filed 7/18/05, effective 7/1/07)

**WAC 246-272A-0260 Inspection.** (1) For all activities requiring a permit, the local health officer shall inspect the OSS. The local health officer shall:

(a) Visit the OSS site during the site evaluation, construction, or final construction inspection;

(b) Either inspect the OSS before cover or allow the designer of the OSS to perform the inspection before cover if the designer is not also named as installer of the system(~~((=))~~); and

(c) Keep the record drawings on file, with the approved design documents.

(2) Prior to any inspection, the local health officer or inspector authorized by the local health officer shall coordinate with the OSS owner to obtain access. When the owner does not authorize access, the local health officer may follow the administrative search warrant procedures in RCW 70A.105.030 to gain access.

(3) For any OSS located on a single property serving one dwelling unit on the same property, the local health officer shall not require a property owner to grant inspection and maintenance easements as a condition of receiving a permit.

(4) During the final construction inspection, the local health officer or the designer of the OSS must confirm the OSS meets the approved design.

(5) To comply with the requirements of WAC 246-272A-0270 (1)(e) or (k), an inspection must include, at a minimum:

(a) Inspection and evaluation of:

(i) The status of all sewage tanks including baffles, effluent filters, tank contents such as water level, scum, sludge, solids, water tightness, and general structural conditions;

(ii) The status of all lids, accesses, and risers;

(iii) The OSS and reserve area for any indicators of OSS failure or conditions that may impact system function, operation or repair; and

(iv) Any other components such as distribution boxes;

(b) A review of the record drawing and related documents, if they exist, including previous reports to confirm the system is operating as designed; and

(c) Any proprietary products following the procedures of the accepted operations and maintenance manual associated with those products.

(6) Evidence of an OSS property transfer inspection as required in WAC 246-272A-0270 (1)(k) must be provided to the local health jurisdiction on a form approved by the local health officer, including at a minimum:

(a) All applicable information from subsection (5) of this section;

(b) The address of the property served by the OSS;

(c) The date of the inspection;

(d) The permitted type and design flow for known OSS; and

(e) Verification that the record drawing is accurate, if it exists, or an OSS site plan showing the location of all system components relative to structures and prominent site features.

(7) A local health jurisdiction may require an additional inspection report, or additional information, for an inspection required under WAC 246-272A-0270(1). The person responsible for the final construction inspection shall assure the OSS meets the approved design.

AMENDATORY SECTION (Amending WSR 05-15-119, filed 7/18/05, effective 7/1/07)

**WAC 246-272A-0265 Record drawings.** Upon completion of ~~((the))~~ new construction, alteration or repair of the OSS, the OSS owner shall submit a complete and detailed record drawing ~~((shall be submitted to both))~~ to the local health officer ~~((and the OSS owner))~~ that includes at a minimum ~~((the following))~~:

(1) Measurements and directions accurate to +/- 1/2 foot, unless otherwise determined by the local health officer, ~~((to assure))~~ so that the following parts of the OSS can be easily located:

- (a) All sewage tank openings requiring access;
  - (b) The ends, and all changes in direction, of installed and found buried pipes and electrical cables that are part of the OSS; and
  - (c) Any other OSS component which, in the judgment of the local health officer or the designer, must be accessed for observation, maintenance, or operation;
- (2) Location and dimensions of the reserve area;
- (3) Record that materials and equipment meet the specifications contained in the design;
- (4) Initial settings of electrical or mechanical devices that must be known to operate the system in the manner intended by the designer or installer; and
- (5) For proprietary products, manufacturer's standard product literature, including performance specifications and maintenance recommendations needed for operation, monitoring, maintenance or repair of the OSS.

AMENDATORY SECTION (Amending WSR 05-15-119, filed 7/18/05, effective 7/1/07)

**WAC 246-272A-0270 Operation, monitoring, and maintenance—Owner responsibilities.** (1) The OSS owner is responsible for operating, monitoring, and maintaining the OSS to minimize the risk of failure, and ~~((to accomplish this purpose,))~~ shall:

- (a) Request assistance from the local health officer upon occurrence of a system failure or suspected system failure;
- (b) Obtain approval from the local health officer before:
  - (i) Repairing, altering, or expanding an OSS ~~((or~~
  - ~~((b))~~ as required by WAC 246-272A-0200; or
  - (ii) Before beginning the use of any newly constructed OSS;
- (c) Secure and renew contracts for periodic maintenance ~~((where))~~ if required by the local health jurisdiction;
- ~~((e))~~ (d) Obtain and renew operation permits if required by the local health jurisdiction;
- ~~((d) Assure a complete evaluation of the system components and/or))~~ (e) Obtain an inspection, as required in WAC 246-272A-0260(5), by a maintenance service provider authorized by the local health officer of all OSS and property to determine functionality, maintenance needs and compliance with ~~((regulations))~~ this chapter and local rules, and any permits:
  - (i) At least once every three years, unless more frequent inspections are specified by the local health officer, for all ~~((systems))~~ OSS consisting solely of a ~~((septic))~~ sewage tank and gravity SSAS;
  - (ii) Annually for all other ~~((systems))~~ OSS unless more frequent inspections are specified by the local health officer;
  - ~~((e))~~ (iii) Submit the results of the inspection to the local health jurisdiction, using a form approved by the local health officer and in compliance with WAC 246-272A-0260(5);
- (f) Employ an approved pumper to remove the septage from the tank when the level of solids and scum indicates that removal is necessary;

~~((f))~~ (g) Provide ongoing maintenance and complete any needed repairs to promptly return the ~~((system))~~ OSS to a proper operating condition;

~~((g))~~ (h) Protect the OSS area and the reserve area from:

(i) Cover by structures or impervious material;

(ii) Surface drainage, and direct drains, such as footing or roof drains. The drainage must be directed away from the area where the OSS is located;

(iii) Soil compaction~~((r))~~. For example by vehicular traffic or livestock; and

(iv) Damage by soil removal and grade alteration~~((+)~~

~~((h))~~.

(i) Keep the flow of sewage to the OSS at or below the approved operating capacity and sewage quality;

~~((i))~~ (j) Operate and maintain ~~((systems))~~ OSS as directed by the local health officer~~((+)~~

~~(j) Request assistance from the local health officer upon occurrence of a system failure or suspected system failure)); and~~

(k) At the time of property transfer~~((r))~~:

(i) Provide to the buyer, all available OSS maintenance and repair records~~((, if available,))~~ in addition to the completed seller disclosure statement in accordance with chapter 64.06 RCW for residential real property transfers;

(ii) Beginning February 1, 2027, obtain an inspection, as required in WAC 246-272A-0260(5), by a third-party inspector authorized by the local health officer. The local health officer may:

(A) Remove the requirement for an inspection at the time of property transfer if the local health jurisdiction has evidence that the OSS is in compliance with (e) of this subsection and the OSS was inspected by a third-party inspector authorized by the local health officer;

(B) Verify the results of the property inspection for compliance with WAC 246-272A-0260; and

(C) Require additional inspections and other requirements not listed in WAC 246-272A-0260;

(iii) Beginning February 1, 2027, obtain an inspection of proprietary treatment products per the product manufacturer recommendations, as required in WAC 246-272A-0260, by a third-party inspector authorized by the local health officer. The local health officer may:

(A) Remove the requirement for an inspection at the time of property transfer if the local health jurisdiction has evidence that the OSS is in compliance with (e) of this subsection and the OSS was inspected by a third-party inspector authorized by the local health officer;

(B) Verify the results of the property inspection for compliance with WAC 246-272A-0260; and

(C) Require additional inspections and other requirements not listed in WAC 246-272A-0260;

(iv) Submit the results of the inspection, and any additional information or reports required by the local health officer, to the local health jurisdiction, using an inspection report form approved by the local health officer. The local health officer may require a compliance schedule for repair of a failure discovered during the property transfer inspection.

(2) ~~((Persons shall))~~ A person may not:

(a) Use or introduce strong bases, acids or chlorinated organic solvents into an OSS for the purpose of system cleaning;



- (b) Use ~~((a sewage system))~~ an OSS additive unless it is specifically approved by the department; ~~((or))~~
- (c) Use an OSS to dispose of waste components atypical of sewage from a residential source; or
- (d) Use any remediation process or activity unless it is approved by the local health officer and is in compliance with WAC 246-272A-0278.

NEW SECTION

**WAC 246-272A-0278 Remediation.** (1) The local health officer may establish a program and requirements for reviewing and approving remediation activities.

- (2) Remediation must not:
  - (a) Result in damage to the OSS;
  - (b) Result in insufficient soil treatment in the zone between the soil dispersal component and the highest seasonal water table, restrictive layer, or soil type 7; or
  - (c) Disturb the soil in or below the soil dispersal component if the vertical separation requirements of WAC 246-272A-0230 are not met.

AMENDATORY SECTION (Amending WSR 05-15-119, filed 7/18/05, effective 7/1/07)

**WAC 246-272A-0280 Repair of failures.** ~~((1) When an OSS failure occurs, the OSS owner shall:~~

- ~~(a) Repair or replace the OSS with a conforming system or component, or a system meeting the requirements of Table IX either on the:~~
  - ~~(i) Property served; or~~
  - ~~(ii) Nearby or adjacent property if easements are obtained; or~~
  - ~~(b) Connect the residence or facility to a:~~
    - ~~(i) Publicly owned LOSS;~~
    - ~~(ii) Privately owned LOSS where it is deemed economically feasible; or~~
    - ~~(iii) Public sewer; or~~
  - ~~(c) Perform one of the following when requirements in (a) and (b) of this subsection are not feasible:~~
    - ~~(i) Use a holding tank; or~~
    - ~~(ii) Obtain a National Pollution Discharge Elimination System or state discharge permit from the Washington state department of ecology issued to a public entity or jointly to a public entity and the system owner only when the local health officer determines:~~
      - ~~(A) An OSS is not feasible; and~~
      - ~~(B) The only realistic method of final dispersal of treated effluent is discharge to the surface of the land or into surface water; or~~
    - ~~(iii) Abandon the property.~~
- ~~(2) Prior to repairing the soil dispersal component, the OSS owner shall develop and submit information required under WAC 246-272A-0200(1).~~

~~(3) The local health officer shall permit a system that meets the requirements of Table IX only if the following are not feasible:~~

- ~~(a) Installation of a conforming system or component; and~~
- ~~(b) Connection to either an approved LOSS or a public sewer.~~

~~(4) The person responsible for the design shall locate and design repairs to:~~

~~(a) Meet the requirements of Table IX if the effluent treatment and soil dispersal component to be repaired or replaced is closer to any surface water, well, or spring than prescribed by the minimum separation required in Table IV of WAC 246-272A-0210(1). Pressure distribution with timed dosing in the soil dispersal component is required in all cases where a conforming system is not feasible.~~

~~**TABLE IX  
Treatment Component Performance Levels for Repair of OSS Not Meeting  
Vertical and Horizontal Separations<sup>1</sup>**~~

Vertical Separation (in inches)	Horizontal Separation <sup>2</sup>											
	<25 feet			25 < 50 feet			50 < 100 feet <sup>3</sup>			≥100 feet		
	Soil Type			Soil Type			Soil Type			Soil Type		
	1	2	3-6	1	2	3-6	1	2	3-6	1	2	3-6
<12	A	A	A	A	A	A	A	A	B	B	B	B
≥12 < 18	A	A	A	A	B	B	A	B	B	Conforming Systems		
≥18 < 24	A	A	A	A	B	B	A	B	C			
≥24 < 36	A	B	B	B	C	C	B	C	C			
≥36	A	B	B	B	C	C	B	C	E			

<sup>1</sup>The treatment component performance levels correspond with those established for treatment components under the product performance testing requirements in Table III of WAC 246-272A-0110.

<sup>2</sup>The horizontal separation indicated in Table IX is the distance between the soil dispersal component and the surface water, well, or spring. If the soil dispersal component is up gradient of a surface water, well, or spring to be used as a potable water source, or beach where shellfish are harvested, the next higher treatment level shall apply unless treatment level A is already required.

<sup>3</sup>On a site where there is a horizontal setback of 75 - 100 feet between an OSS dispersal component and an individual water well, individual spring, nonmarine surface water or surface water that is not a public water source and a vertical separation of greater than twelve inches, a conforming system that complies with WAC 246-272A-0210(4) shall be installed if feasible.

~~(b) Protect drinking water sources and shellfish harvesting areas;~~

~~(c) Minimize nitrogen discharge in areas where nitrogen has been identified as a contaminant of concern in the local plan under WAC 246-272A-0015;~~

~~(d) Prevent the direct discharge of sewage to groundwater, surface water, or upon the surface of the ground;~~

~~(e) Meet the horizontal separations under WAC 246-272A-0210(1) to public drinking water sources;~~

~~(f) Meet other requirements of this chapter to the maximum extent permitted by the site; and~~

~~(g) Maximize the:~~

~~(i) Vertical separation;~~

~~(ii) Distance from a well, spring, or suction line; and~~

~~(iii) Distance to surface water.~~

~~(5) Prior to designing the repair system, the designer shall consider the contributing factors of the failure to enable the repair to address identified causes.~~

~~(6) If the vertical separation is less than twelve inches, the local health officer may permit ASTM C-33 sand or coarser to be used as fill to prevent direct discharge of treated effluent to groundwater, surface water, or upon the surface of the ground.~~

~~(7) For a repair using the requirements of Table IX, disinfection may not be used to achieve the fecal coliform requirements to meet:~~

- ~~(a) Treatment levels A or B where there is less than eighteen inches of vertical separation;~~
- ~~(b) Treatment levels A or B in type 1 soils; or~~
- ~~(c) Treatment level C.~~

~~(8) The local health officer shall identify repair permits meeting the requirements of Table IX for the purpose of tracking future performance.~~

~~(9) An OSS owner receiving a repair permit for a system meeting the requirements of Table IX from the local health officer shall:~~

- ~~(a) Immediately report any failure to the local health officer;~~
- ~~(b) Comply with all local and state requirements stipulated on the permit.)~~

(1) When an OSS failure occurs the local health officer shall:

- (a) Allow an OSS to be repaired using the least costly alternative that meets standards and is likely to provide comparable or better long-term sewage treatment and effluent dispersal outcomes;
- (b) Permit an OSS meeting the requirements in Table X of this section only if the OSS has failed and the following are not feasible:
  - (i) Installation of a conforming OSS or component; or
  - (ii) Connection to either an approved LOSS or a public sewer.
- (c) Identify repair permits meeting the requirements in Table X of this section for the purpose of tracking future performance;
- (d) Give first priority to allowing repair and second priority to allowing replacement of an existing conventional OSS, consisting of a septic tank and drainfield, with a similar conventional OSS;
- (e) Evaluate all unpermitted sewage discharges to determine if they pose a public health threat. If determined by the local health officer to be a public health threat, the local health officer shall require a compliance schedule;
- (f) Report failures within 200 feet of shellfish growing areas to the department; and
- (g) Not impose or allow the imposition of more stringent performance requirements of equivalent OSS on private entities than public entities.

(2) The local health officer may:

- (a) Require a compliance schedule for failures discovered during property transfer inspections;
- (b) Allow a repair of a failure using ASTM C-33 sand or coarser as fill to prevent direct discharge of treated effluent to groundwater, surface water, or upon the surface of the ground if the vertical separation is less than 12 inches.

(3) The OSS owner shall notify the local health officer when there is a failure and indicate which methods will be used to address the failure in accordance with Table IX of this section:

- (a) The owner may use option D only if the local health officer determines options A through C are not feasible and may use option E or F only if options A through D are not feasible.
- (b) For options A through F, the owner shall develop and submit information and obtain a permit as required under WAC 246-272A-0200 prior to any repair or replacement of an OSS on the property served or a nearby property if the owner obtains an appropriate documentation including, but not limited to, an easement, covenant, contract, or other legal document authorizing access for construction, operation, maintenance, and repair.

(c) If options A through F are not feasible, the owner shall discontinue use of the OSS, abandon the OSS according to the requirements in WAC 246-272A-0300, and cease all sewage generating activities on the property.

**Table IX**  
**Options and Methods to Address an OSS Failure**

<b><u>Options</u></b>	<b><u>Method</u></b>
<b><u>A</u></b>	<p><u>Repair or replace the OSS, with a similar OSS, if the OSS provides comparable or better long-term sewage treatment and effluent dispersal outcomes where:</u></p> <ol style="list-style-type: none"> <li><u>1. The effluent treatment and soil dispersal component to be repaired or replaced is not closer to any surface water, well, or spring than the minimum separation distance required in Table IV of WAC 246-272A-0210(1);</u></li> <li><u>2. The soil dispersal component to be repaired or replaced complies with the treatment level and dispersal method requirements in Table VI of WAC 246-272A-0230;</u></li> <li><u>3. The local health officer has a permit or record of the OSS on file; and</u></li> <li><u>4. The repair or replacement will not result in an OSS that meets the definition of failure.</u></li> </ol>
<b><u>B</u></b>	<u>Repair or replace the OSS with an OSS in compliance with new construction requirements under this chapter.</u>
<b><u>C</u></b>	<p><u>Connect the residence or facility to a:</u></p> <ol style="list-style-type: none"> <li><u>1. Publicly owned LOSS;</u></li> <li><u>2. Privately owned LOSS where it is deemed economically feasible; or</u></li> <li><u>3. Public sewer.</u></li> </ol>
<b><u>D</u></b>	<u>Repair or replace the OSS in conformance with Table X of this section.</u>
<b><u>E</u></b>	<u>Use a holding tank.</u>
<b><u>F</u></b>	<p><u>Obtain a National Pollution Discharge Elimination System or state discharge permit from the Washington state department of ecology issued to a public entity or jointly to a public entity and the OSS owner only when the local health officer determines:</u></p> <ol style="list-style-type: none"> <li><u>1. An OSS is not feasible; and</u></li> <li><u>2. The only realistic method of final dispersal of treated effluent is discharge to the surface of the land or into surface water.</u></li> </ol>

(4) When there is an OSS failure, the OSS designer shall:

(a) Evaluate the causes of failure prior to designing the repair or replacement of the OSS;

(b) Prevent the direct discharge of sewage or treated effluent to groundwater, surface water, or upon the surface of the ground;

(c) Meet the horizontal separations under WAC 246-272A-0210(1) to public drinking water sources;

(d) Protect all drinking water sources, shellfish harvesting areas, and water recreation facilities designated for swimming in natural waters;

(e) Minimize nitrogen discharge in areas where nitrogen has been identified as a contaminant of concern in the local management plan under WAC 246-272A-0014 or 246-272A-0016;

(f) Not use disinfection to achieve fecal coliform or *E. Coli* requirements in Table X of this section to meet:

(i) Treatment levels DL1 or DL2 with less than 18 inches of vertical separation; or

(ii) Treatment levels DL1 or DL2 in type 1 soils; or

(iii) Treatment level DL3.

(g) Minimize impact of phosphorus discharge in areas where the local health officer has identified phosphorus as a contaminant of concern in the local management plan under WAC 246-272A-0015;

(h) Locate and design repairs meeting the requirements in Table X of this section if the effluent treatment and soil dispersal component

to be repaired or replaced is closer to any surface water, well, or spring than prescribed by the minimum separation required in Table IV of WAC 246-272A-0210(1);

(i) Design any nonconforming OSS using pressure distribution with timed dosing in the soil dispersal component; and

(j) Meet all other design requirements of this chapter to the maximum extent permitted by the site, to maximize the:

(i) Vertical separation;

(ii) Distance from a well or spring; and

(iii) Distance to surface water.

**Table X**  
**Treatment Component Performance Levels for Repair of OSS Not Meeting Vertical and Horizontal Separations<sup>1</sup>**

Vertical Separation (in inches)	Horizontal Separation <sup>2</sup>											
	< 30 feet			≥ 30 < 50 feet			≥ 50 < 100 feet <sup>3</sup>			≥ 100 feet		
	Soil Type			Soil Type			Soil Type			Soil Type		
	1	2	3-6	1	2	3-6	1	2	3-6	1	2	3-6
< 12	A & DL1	A & DL1	A & DL1	A & DL1	A & DL1	A & DL1	A & DL1	A & DL1	A & DL1	B & DL2	B & DL2	B & DL2
≥ 12 < 18	A & DL1	A & DL1	A & DL1	A & DL1	B & DL2	B & DL2	A & DL1	B & DL2	B & DL2	Conforming  OSS		
≥ 18 < 24	A & DL1	A & DL1	A & DL1	A & DL1	B & DL2	B & DL2	A & DL1	B & DL2	B & DL2			
≥ 24 < 36	A & DL1	B & DL2	B & DL2	B & DL2	B & DL2	B & DL2	B & DL2	B & DL2	C & DL3			
≥ 36	A & DL1	B & DL2	B & DL2	B & DL2	C & DL3	C & DL3	B & DL2	C & DL3	C & DL3			

<sup>1</sup>The treatment component performance levels correspond with those established for treatment components under the product performance testing requirements in Table III in WAC 246-272A-0110.

<sup>2</sup>The horizontal separation indicated in Table X of this section is the distance between the soil dispersal component and the surface water, well, or spring. If the soil dispersal component is up-gradient of a surface water, well, or spring to be used as a potable water source, or beach where shellfish are harvested, the next higher treatment level shall apply unless treatment level A is already required.

<sup>3</sup>On a site where there is a horizontal setback of 75-100 feet between an OSS dispersal component and an individual water well, individual spring, nonmarine surface water or surface water that is not a public water source and a vertical separation of greater than 12 inches, a conforming OSS that complies with WAC 246-272A-0210(4) shall be installed if feasible.

NEW SECTION

**WAC 246-272A-0282 Minor repair of malfunctions.** The local health officer:

(1) Shall require the minor repair of a malfunction to a functioning state;

(2) May require a permit for a minor repair of a malfunction; and

(3) May require the OSS owner to submit information regarding minor repairs of a malfunction.

AMENDATORY SECTION (Amending WSR 05-15-119, filed 7/18/05, effective 7/1/07)

**WAC 246-272A-0290 Expansions.** (1) The local health officer shall require an OSS and a reserve area in full compliance with the new ~~((system))~~ construction standards specified in this chapter for an OSS expansion ~~((of a residence or other facility))~~.

(2) A local health officer may allow expansion of an existing ~~((on-site sewage system adjacent to))~~ OSS within 200 feet of a marine shoreline that does not meet the minimum horizontal separation between the soil dispersal component and the ordinary high-water mark required by WAC 246-272A-0210, Table IV, provided that:

(a) The ~~((system))~~ OSS meets all requirements of WAC 246-272A-0230, 246-272A-0232, 246-272A-0234, and 246-272A-0238;

(b) The ~~((system))~~ OSS complies with all other requirements of WAC 246-272A-0210 and this section;

(c) Horizontal separation between the soil dispersal component and the ordinary high-water mark is ~~((fifty))~~ 50 feet or greater; and

(d) Vertical separation is two feet or greater.

AMENDATORY SECTION (Amending WSR 05-15-119, filed 7/18/05, effective 7/1/07)

**WAC 246-272A-0300 Abandonment.** Persons permanently abandoning a ~~((septic))~~ sewage tank, seepage pit, cesspool, or other sewage container shall:

(1) Have the septage removed by an approved pumper; and

(2) Perform one of the following:

(a) Remove and dispose of sewage tanks and other components in a manner approved by the local health officer; or

(b) Leave the sewage tanks and components in place. Remove or destroy the lid~~((+))~~ if possible and ~~((+))~~ fill the void with soil or gravel; and

(3) Grade the site to the surroundings.

AMENDATORY SECTION (Amending WSR 05-15-119, filed 7/18/05, effective 7/1/07)

**WAC 246-272A-0310 Septage management.** ~~((1) The local health officer shall approve an individual before they may remove septage from an OSS.~~

~~((2) Persons))~~ A person removing septage from an OSS shall obtain approval from the local health officer before removal and:

~~((a))~~ (1) Transport septage or sewage only in vehicles clearly identified with the name of the business and approved by the local health officer;

~~((b))~~ (2) Record and report septage removal as required by the local health officer; and

~~((e))~~ (3) Dispose of septage, or apply septage biosolids to land only in a manner consistent with applicable laws.

**WAC 246-272A-0320 Developments, subdivisions, and minimum land area requirements.** ((1) A person proposing a subdivision where the use of OSS is planned shall obtain a recommendation for approval from the local health officer as required by RCW 58.17.150.

(2) The local health officer shall require the following prior to approving any development:

(a) Site evaluations as required under WAC 246-272A-0220, excluding subsections (3)(a)(i) and (4)(d);

(b) Where a subdivision with individual wells is proposed:

(i) Configuration of each lot to allow a one hundred-foot radius water supply protection zone to fit within the lot lines; or

(ii) Establishment of a one hundred-foot protection zone around each existing and proposed well site;

(c) Where preliminary approval of a subdivision is requested, provision of at least one soil log per proposed lot, unless the local health officer determines existing soils information allows fewer soil logs;

(d) Determination of the minimum lot size or minimum land area required for the development using Method I and/or Method II:

**METHOD I.** Table X, Single-Family Residence Minimum Lot Size or Minimum Land Area Required Per Unit Volume of Sewage, shows the minimum lot size required per single-family residence. For developments other than single-family residences, the minimum land areas shown are required for each unit volume of sewage. However, the local health officer may require larger lot sizes where the local health officer has identified nitrogen as a concern either through planning activities described in WAC 246-272A-0015 or another process.

**TABLE X  
Minimum Land Area Requirement  
Single-Family Residence or Unit Volume of Sewage**

Type of Water Supply	Soil Type (defined by WAC 246-272A-0220)					
	1	2	3	4	5	6
Public	0.5 acre	12,500 sq. ft.	15,000 sq. ft.	18,000 sq. ft.	20,000 sq. ft.	22,000 sq. ft.
	2.5 acre <sup>1</sup>					
Individual, on each lot	1.0 acre	1-acre	1-acre	1-acre	2-acres	2-acres
	2.5 acres <sup>1</sup>					

<sup>1</sup>See WAC 246-272A-0234(6).

**METHOD II.** A minimum land area proposal using Method II is acceptable only when the applicant:

- (i) Justifies the proposal through a written analysis of the:
  - (A) Soil type and depth;
  - (B) Area drainage, and/or lot drainage;
  - (C) Public health impact on ground and surface water quality;
  - (D) Setbacks from property lines, water supplies, etc.;
  - (E) Source of domestic water;
  - (F) Topography, geology, and ground cover;
  - (G) Climatic conditions;
  - (H) Availability of public sewers;
  - (I) Activity or land use, present, and anticipated;
  - (J) Growth patterns;

~~(K) Reserve areas for additional subsurface treatment and dispersal;~~

~~(L) Anticipated sewage volume;~~

~~(M) Compliance with current planning and zoning requirements;~~

~~(N) Types of proposed systems or designs, including the use of systems designed for removal of nitrogen;~~

~~(O) Existing encumbrances, such as those listed in WAC 246-272A-0200 (1) (c) (v) and 246-272A-0220 (2) (a) (vii); and~~

~~(P) Estimated nitrogen loading from OSS effluent to existing ground and surface water;~~

~~(Q) Any other information required by the local health officer.~~

~~(ii) Shows development with public water supplies having:~~

~~(A) At least twelve thousand five hundred square feet lot sizes per single-family residence;~~

~~(B) No more than 3.5 unit volumes of sewage per day per acre for developments other than single-family residences; and~~

~~(iii) Shows development with individual water supplies having at least one acre per unit volume of sewage; and~~

~~(iv) Shows land area under surface water is not included in the minimum land area calculation; and~~

~~(e) Regardless of which method is used for determining required minimum lot sizes or minimum land area, submittal to the health officer of information consisting of field data, plans, and reports supporting a conclusion the land area provided is sufficient to:~~

~~(i) Install conforming OSS;~~

~~(ii) Assure preservation of reserve areas for proposed and existing OSS;~~

~~(iii) Properly treat and dispose of the sewage; and~~

~~(iv) Minimize public health effects from the accumulation of contaminants in surface and groundwater.~~

~~(3) The department shall develop guidelines for the application of Method II by (insert date one year from the effective date).~~

~~(4) The local health officer shall require lot areas of twelve thousand five hundred square feet or larger except when a person proposes:~~

~~(a) OSS within the boundaries of a recognized sewer utility having a finalized assessment roll; or~~

~~(b) A planned unit development with:~~

~~(i) A signed, notarized, and recorded deed covenant restricting any development of lots or parcels above the approved density with the overall density meeting the minimum land area requirements of subsection (2) (d) of this section;~~

~~(ii) A public entity responsible for operation and maintenance of the OSS, or a single individual owning the OSS;~~

~~(iii) Management requirements under chapter 246-272B WAC when installing a LOSS; and~~

~~(iv) Extinguishment of the deed covenant and higher density development allowed only when the development connects to public sewers.~~

~~(5) The local health officer may:~~

~~(a) Allow inclusion of the area to the centerline of a road or street right of way in a Method II determination under subsection (2) (d) of this section to be included in the minimum land area calculation if:~~

~~(i) The dedicated road or street right of ways are along the perimeter of the development;~~

~~(ii) The road or street right of ways are dedicated as part of the proposed development; and~~



~~(iii) Lots are at least twelve thousand five hundred square feet in size.~~

~~(b) Require detailed plot plans and OSS designs prior to final approval of subdivision proposals;~~

~~(c) Require larger land areas or lot sizes to achieve public health protection;~~

~~(d) Prohibit development on individual lots within the boundaries of an approved subdivision if the proposed OSS design does not protect public health by meeting requirements of these regulations; and~~

~~(e) Permit the installation of an OSS, where the minimum land area requirements or lot sizes cannot be met, only when all of the following criteria are met:~~

~~(i) The lot is registered as a legal lot of record created prior to the effective date of this chapter;~~

~~(ii) The lot is outside an area identified by the local plan developed under WAC 246-272A-0015 where minimum land area has been listed as a design parameter necessary for public health protection; and~~

~~(iii) The proposed system meets all requirements of these regulations other than minimum land area.~~

~~(6) The use of a reduced-sized SSAS does not provide for a reduction in the minimum land area requirements established in this section. Site development incorporating reduced-sized SSAS must meet the minimum land area requirements established in state and local codes.)~~

(1) Prior to approving any development, the local health officer shall:

(a) Require site evaluations under WAC 246-272A-0220;

(b) Require information consisting of field data, plans, and reports supporting a conclusion that the proposed land area is sufficient to:

(i) Install conforming OSS;

(ii) Preserve reserve areas for proposed and existing OSS; and

(iii) Properly treat and dispose of the sewage;

(c) Require information demonstrating that the proposed development will minimize adverse public health effects from the accumulation of contaminants in groundwater and surface water;

(d) Determine the minimum land area required for the development using Table XI of this section, or the alternative methodology in Table XII of this section. The local health officer may require larger lot sizes than the minimum standards established in Table XI or Table XII of this section;

**Table XI**

**Minimum Land Area Requirement For Each Single-Family Residence or Unit Volume of Sewage and Minimum Usable Land Area**

		<u>Soil Type (defined by WAC 246-272A-0220)</u>					
		<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
<b><u>Minimum Land Area</u></b>	<b><u>Public Water Supply</u></b>	<u>21,780 sq. ft. (.5 acre)</u>	<u>13,000 sq. ft.</u>	<u>16,000 sq. ft.</u>	<u>19,000 sq. ft.</u>	<u>21,000 sq. ft.</u>	<u>23,000 sq. ft.</u>
		<u>2.5 acres<sup>1</sup></u>					
<b><u>Minimum Usable Land Area</u></b>	<b><u>Nonpublic Water Supply</u></b>	<u>1.0 acre</u>	<u>1.0 acre</u>	<u>1.0 acre</u>	<u>1.0 acre</u>	<u>2.0 acres</u>	<u>2.0 acres</u>
		<u>2.5 acres<sup>1</sup></u>					

<sup>1</sup>OSS consisting of only sewage tanks and gravity SSAS must have a minimum land area of 2.5 acres per WAC 246-272A-0234(6).

**Table XII**

**Maximum Allowable Total Nitrogen (TN) Load Per Day by Type of Water Supply, Soil Type, and Land Area<sup>1</sup>**

<b><u>Water Supply Type</u></b>	<b><u>Maximum Daily TN Load</u></b>	<b><u>Soil Type<sup>2</sup></u></b>					
		<b><u>1</u></b>	<b><u>2</u></b>	<b><u>3</u></b>	<b><u>4</u></b>	<b><u>5</u></b>	<b><u>6</u></b>
<b><u>Public</u></b>	<b><u>mg per sq. ft.</u></b>	<u>3.8</u>	<u>6.3</u>	<u>5.1</u>	<u>4.3</u>	<u>3.9</u>	<u>3.6</u>
	<b><u>lb per acre</u></b>	<u>0.36</u>	<u>0.60</u>	<u>0.49</u>	<u>0.41</u>	<u>0.37</u>	<u>0.34</u>
<b><u>Nonpublic</u></b>	<b><u>mg per sq. ft.</u></b>	<u>1.9</u>	<u>1.9</u>	<u>1.9</u>	<u>1.9</u>	<u>0.9</u>	<u>0.9</u>
	<b><u>lb per acre</u></b>	<u>0.18</u>	<u>0.18</u>	<u>0.18</u>	<u>0.18</u>	<u>0.09</u>	<u>0.09</u>

<sup>1</sup>Based on 60 mg/L TN and 360 gal/day OSS effluent.

<sup>2</sup>As defined in Table V in WAC 246-272A-0220.

(e) Require all proposals not meeting the minimum land area requirements in Table XI of this section to demonstrate the proposed development:

(i) Minimizes adverse impacts to public health, surface water, or groundwater quality;

(ii) Considers:

(A) Topography, geology, and ground cover;

(B) Climactic conditions;

(C) Availability of public sewers; and

(D) Present and anticipated land use and growth patterns;

(iii) Complies with current planning and zoning requirements;

(iv) Does not exceed the nitrogen limit per land area as identified in Table XII of this section; and

(v) Does not allow new lots smaller than 13,000 square feet if served by nonpublic water supplies;

(f) Require minimum land area of 13,000 square feet or larger, except when a proposal includes:

(i) OSS within the boundaries of a recognized sewer utility having a finalized assessment roll; or

(ii) A planned unit development with a signed, notarized, and recorded deed covenant restricting any development of lots or parcels above the approved density with the overall density meeting the minimum land area requirements of (d) or (e) of this subsection in perpetuity or until the OSS is no longer needed as identified in WAC 246-272A-0200(6);

(g) Require that developments other than single-family residences:

(i) Meet the minimum land areas required for each unit's volume of sewage;

(ii) Do not exceed 3.35 unit volumes of sewage per day per acre if served by public water supplies; and

(iii) Do not exceed 1.0 unit volume of sewage per day per acre for nonpublic water supplies; and

(h) Require that the use of a reduced-sized dispersal component does not result in a reduction of the minimum land area requirements established in this section.

(2) The local health officer shall require the following prior to approving any subdivision:

(a) A recommendation for approval as required by RCW 58.17.150;

(b) Where a subdivision with nonpublic wells are proposed:

(i) Configuration of each lot line to allow a supply protection zone to fit within the lot lines; or

(ii) Water supply protection zones on more than one lot when the person proposing the subdivision or development provides a copy of a

recorded restrictive covenant to each property that is sited partially or completely within the water supply protection zone;

(iii) Water supply protection zone of at least 100 foot radius for each existing or proposed well site.

(3) The local health officer may:

(a) Require detailed site plans and OSS designs prior to final approval of subdivision proposals;

(b) Require larger land areas or lot sizes to achieve public health protection;

(c) Prohibit development on individual lots within the boundaries of an approved subdivision if the proposed OSS design does not meet the requirements of this chapter; and

(d) Permit the installation of an OSS, where the minimum land area requirements or lot sizes in Table XI of this section or maximum total nitrogen in Table XII of this section cannot be met, only when the following criteria are met:

(i) The lot is registered as a legal lot of record created prior to the effective date of the rule;

(ii) The lot is not within an area identified in the local management plan developed under WAC 246-272A-0015 where minimum land area is listed as a design parameter necessary for public health protection; and

(iii) The proposed OSS meets all requirements of this chapter without the use of a waiver under WAC 246-272A-0420.

AMENDATORY SECTION (Amending WSR 05-15-119, filed 7/18/05, effective 7/1/07)

**WAC 246-272A-0340 ((Certification)) Approval of installers, pumpers, and maintenance service providers.** (1) OSS installers ((and)), pumpers ((must)), and maintenance service providers shall obtain approval from the local health officer prior to providing services including, but not limited to, conducting inspections in accordance with WAC 246-272A-0260 and 246-272A-0270, within a local health jurisdiction.

(2) The local health officer ((may)) shall establish ((programs and requirements)) procedures for approving OSS installers, pumpers, and maintenance service providers no later than February 1, 2025. These procedures must include, but are not limited to, conducting inspections in accordance with WAC 246-272A-0260 and 246-272A-0270. The local health officer may approve OSS installers, pumpers, and maintenance service providers through reciprocity by other Washington local health jurisdictions.

(3) The local health officer may establish a homeowner OSS inspection certification process.

AMENDATORY SECTION (Amending WSR 05-15-119, filed 7/18/05, effective 9/15/05)

**WAC 246-272A-0400 Technical advisory ((committee)) group (TAG).** ((1)) The department shall:

~~((a))~~ (1) Maintain a ~~((technical advisory committee))~~ TAG to advise the department regarding:

~~((i))~~ (a) OSS design and siting;

~~((ii))~~ (b) Public domain technologies ~~((and recommended standards and guidance))~~, DS&G for ~~((their))~~ product use; and

~~((iii))~~ (c) Testing and design standards used for proprietary product registration and ~~((recommended standards and guidance))~~ DS&G for use of proprietary products.

~~((b))~~ (2) Select members for the ~~((technical advisory committee with))~~ TAG for three-year terms that have technical or scientific knowledge applicable to OSS from agencies, professions, and organizations including:

~~((i))~~ (a) Local health ~~((departments))~~ jurisdictions;

~~((ii))~~ (b) Engineering firms;

~~((iii))~~ (c) The Washington department of ecology;

~~((iv))~~ (d) Land sales, development and building industries;

~~((v))~~ (e) Public sewer utilities;

~~((vi))~~ On-site sewage system design and installation firms;

~~((vii))~~ (f) OSS:

(i) Designers;

(ii) Installers;

(iii) Maintenance service providers;

(iv) Product manufacturers;

(g) Environmental organizations;

~~((viii))~~ (h) University~~((/))~~ and college academic communities;

~~((ix))~~ On-site sewage system or related product manufacturers);

(i) Certified professional soil scientists; and

~~((x))~~ (j) Other interested organizations or groups.

~~((c))~~ Convene meetings as needed.

~~(2) The department may have a representative on the technical advisory committee.)~~

AMENDATORY SECTION (Amending WSR 05-15-119, filed 7/18/05, effective 9/15/05)

**WAC 246-272A-0410 Policy advisory ~~((committee))~~ group.** ~~((1))~~

The department shall:

~~((a))~~ (1) Maintain a policy advisory ~~((committee))~~ group to:

~~((i))~~ (a) Make recommendations concerning OSS departmental policy and ~~((regulations))~~ rules;

~~((ii))~~ (b) Review OSS program services; and

~~((iii))~~ (c) Provide input to the department regarding the ~~((on-site sewage))~~ OSS program;

~~((b))~~ (2) Select members for three-year terms from agencies, professions, organizations having knowledge and interest in OSS, and ~~((groups))~~ communities which are affected by ~~((the regulations; and~~

~~((c))~~ Convene meetings as needed.

~~(2) The department may have a representative on the policy advisory committee.)~~ this chapter.

AMENDATORY SECTION (Amending WSR 05-15-119, filed 7/18/05, effective 9/15/05)

**WAC 246-272A-0420 Waivers ~~((of state regulations))~~.** (1) The local health officer may grant a waiver from specific requirements of this chapter ~~((if))~~. A request for waiver must be:

(a) ~~((The waiver request is))~~ Evaluated by the local health officer on an individual, site-by-site basis;

(b) ~~((The local health officer determines that the waiver is))~~ Consistent with the ~~((standards in, and the intent of, these rules;~~ ~~(c))~~ purposes of this chapter.

(2) (a) The local health officer must submit ~~((s))~~ quarterly reports to the department ~~((regarding any))~~ showing waivers approved or denied ~~((; and~~

~~((Based on review of the quarterly reports))~~.

(b) Upon review, if the department finds that the waivers previously granted ~~((have not been))~~ are inconsistent, consistent with the ~~((standards in, and the intent of these rules))~~ purposes of this chapter, and DS&G for granting waivers, the department shall provide technical assistance to the local health officer to correct the inconsistency, and may notify the local and state boards of health of the department's concerns.

(c) If upon further review ~~((of the quarterly reports))~~, the department finds ~~((that the inconsistency between the waivers granted and the state board of health standards has not been corrected))~~ waivers previously granted continue to be inconsistent with the purposes of this chapter and DS&G, the department may suspend the authority of the local health officer to grant waivers under this section until such inconsistencies have been corrected.

~~((2))~~ (3) The department shall ~~((develop))~~ maintain and update guidance to assist local health officers in the application of waivers.

(4) The department shall publish an annual report summarizing the waivers issued over the previous year.

AMENDATORY SECTION (Amending WSR 05-15-119, filed 7/18/05, effective 9/15/05)

**WAC 246-272A-0425 Required ~~((rule))~~ review of rules.** The department shall review this chapter to evaluate the effectiveness of the rules ~~((and determine areas where revisions may be necessary. The department will provide the results of their review along with their))~~, determine where revisions may be necessary, and make recommendations to the state board of health and all local health officers by September ~~((2009))~~ 2026 and every four years thereafter.

**WAC 246-272A-0430 Enforcement.** (1) When an OSS is out of compliance with any law or rule regulating OSS and administered by the department or the local health officer, the department or the local health officer(~~:-~~

~~(a) Shall enforce the rules of chapter 246-272A WAC; or  
(b) May refer cases within their jurisdiction to the local prosecutor's office or office of the attorney general, as appropriate.~~

~~(2) When a person violates the provisions under this chapter, the department, local health officer, local prosecutor's office, or office of the attorney general may initiate enforcement or disciplinary actions, or any other legal proceeding authorized by law including, but not limited to, any one or a combination of the following:~~

~~(a) Informal administrative conferences, convened at the request of the department or owner, to explore facts and resolve problems;~~

~~(b) Orders directed to the owner and/or operator of the OSS and/or person causing or responsible for the violation of the rules of chapter 246-272A WAC;~~

~~(c) Denial, suspension, modification, or revocation of permits, approvals, registrations, or certification;~~

~~(d) The penalties under chapter 70.05 RCW and RCW 43.70.190; and~~

~~(e) Civil or criminal action.~~

~~(3) Orders authorized under this section include the following:~~

~~(a) Orders requiring corrective measures necessary to effect compliance with chapter 246-272A WAC which may include a compliance schedule; and~~

~~(b) Orders to stop work and/or refrain from using any OSS or portion of the OSS or improvements to the OSS until all permits, certifications, and approvals required by rule or statute are obtained.~~

~~(4) Enforcement orders)) may initiate enforcement action. Enforcement action may include, but is not necessarily limited to:~~

(a) A notice of correction describing the condition that is not in compliance and the text of the specific section or subsection of the applicable state or federal law or rule, a statement of what is required to achieve compliance, and the date by which compliance is to be achieved;

(b) A notice of violation with or without a civil penalty;

(c) An order requiring specific actions or ceasing unacceptable activities within a designated time period;

(d) Suspension, revocation, or modification or denial of permits and licenses as authorized by RCW 43.70.115;

(e) Civil or criminal penalties authorized under chapter 70.05 RCW and RCW 43.70.190;

(f) An informal conference may be held at the request of any party to resolve disputes arising from enforcement of this chapter.

(2) Notices and orders issued under this section ((shall)) must:

(a) Be in writing;

(b) Name the person or persons to whom the order is directed;

(c) Briefly describe each action or inaction constituting a violation of the rules of chapter 246-272A WAC, or applicable local ((code)) rules;

(d) Specify any required corrective action, if applicable;

(e) Specify the effective date of the order, with time or times of compliance;

(f) Provide notice of the consequences of failure to comply or repeated violation, as appropriate (~~(. Such notices may include a statement that continued or repeated violation may subject the violator to:~~

~~(i) Denial, suspension, or revocation of a permit approval, or certification;~~

~~(ii) Referral to the office of the county prosecutor or attorney general; and/or~~

~~(iii) Other appropriate remedies.~~

~~(g) Provide the name, business address, and phone number of an appropriate staff person who may be contacted regarding an order).~~

~~((5)) (3) Enforcement orders shall be personally served in the manner of service of a summons in a civil action or in ((a)) another manner showing proof of receipt.~~

~~((6)) (4) The department shall have cause to deny the application or reapplication for ((an operational)) a permit or to revoke, suspend, or modify a required ((operational)) permit of any person who has:~~

~~(a) Failed or refused to comply with the provisions of chapter 246-272A WAC, or any other statutory provision or rule regulating the operation of an OSS; or~~

~~(b) Obtained or attempted to obtain a permit or any other required certificate or approval by misrepresentation.~~

~~((7) For the purposes of subsection (6) of this section and WAC 246-272A-0440, a person is defined to include:~~

~~(a) Applicant;~~

~~(b) Reapplicant;~~

~~(c) Permit holder; or~~

~~(d) Any individual associated with (a), (b) or (c) of this subsection including, but not limited to:~~

~~(i) Board members;~~

~~(ii) Officers;~~

~~(iii) Managers;~~

~~(iv) Partners;~~

~~(v) Association members;~~

~~(vi) Agents; and~~

~~(vii) Third persons acting with the knowledge of such persons.)~~

AMENDATORY SECTION (Amending WSR 05-15-119, filed 7/18/05, effective 9/15/05)

**WAC 246-272A-0440 Notice of decision—Adjudicative proceeding.**

(1) All local boards of health shall:

(a) Maintain an ((administrative appeals)) adjudicative process to ((consider)) resolve procedural and technical conflicts arising from the administration of local regulations; and

(b) Establish rules for conducting hearings requested to contest a local health officer's actions.

(2) The department shall provide notice of the department's denial, suspension, modification or revocation of a permit, certification, or approval consistent with RCW 43.70.115, chapter 34.05 RCW, and chapter 246-10 WAC.

(3) A person contesting a departmental decision regarding a permit, certificate, or approval may file a written request for an adjudicative proceeding consistent with chapter 246-10 WAC.

(4) Department actions are governed (~~under the Administrative Procedure Act~~) by chapter 34.05 RCW, RCW 43.70.115, this chapter, and chapter 246-10 WAC.

#### REPEALER

The following sections of the Washington Administrative Code are repealed:

- |                   |   |
|-------------------|---|
| WAC 246-272A-0020 | Applicability.  |
| WAC 246-272A-0125 | Transition from the list of approved systems and products to the registered list—Treatment products.        |
| WAC 246-272A-0135 | Transition from the list of approved systems and products to the registered list—Bacteriological reduction. |
| WAC 246-272A-0150 | Transition from the list of approved systems and products to the registered list—Distribution products.     |
| WAC 246-272A-0175 | Transition from the experimental system program to application for product registration.                    |



**Summary of Key Draft Rule Changes**  
**October 2023**  
**On-site Sewage Systems**  
**Chapter 246-272A WAC**

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**How to Use this Document**

This document lists the key proposed changes to the rule. These changes are based on the recommendations made by the Onsite Rule Revision Committee and changes made by department program and policy staff. If a section is not listed, there are no proposed changes or only minor changes.

**Acronyms**

LHJ	Local Health Jurisdiction
LHO	Local Health Officer
LMP	Local Management Plan
OSS	On-site Sewage System
SFR	Single Family Residence
SSAS	Subsurface Soil Absorption System

**Summary of Draft Changes**

WAC Section Number	Section Title	Draft Changes
-0007	Applicability	<ul style="list-style-type: none"> <li>Created new section to move Applicability section nearer the beginning of the chapter for ease of use.</li> <li>Clarified language describing that chapter applies to treatment, siting, design, installation, and operation and maintenance of OSS.</li> <li>Updated language for clarity.</li> </ul>
-0010	Definitions	<ul style="list-style-type: none"> <li>Changed several definitions for clarity and consistency throughout rule.</li> <li>Added new definitions to address issues with application of current rule language.</li> <li>Added new definitions to address issues with application of draft rule language.</li> </ul>
-0013	Local Rules	<ul style="list-style-type: none"> <li>Created new section number. Moved Local Regulation to its own section, separate from LMPs. Renamed to Local Rules.</li> <li>Updated language for clarity.</li> </ul>
-0015	Local Management Plans	<ul style="list-style-type: none"> <li>Removed Local Regulation from section and moved to section -0013.</li> <li>Added requirements for Puget Sound LHJs to include in their LMPs consideration of:               <ul style="list-style-type: none"> <li>Areas where phosphorus is a contaminant of concern</li> <li>Areas where sea level rise may impact horizontal separation to surface water</li> </ul> </li> </ul>

		<ul style="list-style-type: none"> <li>• Added requirement for Puget Sound LHJs to include a summary of program expenditures by activity and fund source and a strategy to fill any funding gaps.</li> <li>• Added requirement that the LHO for each Puget Sound county and the department review and approve their LMP within 2 years of the rule effective date, and every 5 years thereafter, and revise as necessary.</li> <li>• Changed the required process for LHO to allow public input in LMP before submitting to the department for approval: <ul style="list-style-type: none"> <li>○ <u>From</u> holding a public hearing prior to approval of a new or revised LMP by the local board of health,</li> <li>○ <u>To</u> providing an opportunity for public input following review by the LHO, prior to approval by the local board of health.</li> </ul> </li> <li>• Added requirement that the LHO for each Puget Sound county report annually to the department the following data elements: number of OSS, number of unknown OSS identified, number of failures found, number of failures repaired, number of property transfer inspections completed, and status of compliance with inspections required by WAC 246-272A-0270.</li> <li>• Updated language for clarity.</li> </ul>
-0020	<b>Applicability</b>	<ul style="list-style-type: none"> <li>• Moved to section -0007</li> </ul>
-0025	<b>Connection to public sewer system</b>	<ul style="list-style-type: none"> <li>• Clarified where to measure 200 feet from to determine if connection to sewer is required.</li> <li>• Updated language for clarity.</li> </ul>
-0100	<b>Sewage Technologies</b>	<ul style="list-style-type: none"> <li>• Changed Recommended Standards &amp; Guidance (RS&amp;G) to Departmental Standards and Guidance (DS&amp;G).</li> <li>• Removed reference to sewage technology categories.</li> <li>• Added provision that department may remove, restrict, or suspend a product's approval for failure to meet requirements of approval.</li> <li>• Updated language for clarity.</li> </ul>
-0110	<b>Proprietary treatment products – Certification and registration</b>	<ul style="list-style-type: none"> <li>• Added <i>NSF/ANSI Standard 245: Residential Wastewater Treatment Systems - Nitrogen Reduction</i> as a method to verify nitrogen reduction for proprietary nitrogen reducing products.</li> <li>• Added <i>NSF/ANSI Standard 385 Residential Wastewater Treatment Systems – Disinfection Mechanics</i> as a method to verify bacterial reduction for proprietary supplemental bacterial reduction products.</li> <li>• Added allowance for manufacturers to request to substitute components of a registered proprietary product's construction in cases of supply chain shortage or similar manufacturing disruption.</li> <li>• Updated references to testing protocols, including adding a protocol to use EPA Method 1664, Revision B to verify performance of Category 2 products.</li> <li>• Added requirement that product manufacturers follow departmental field performance standards.</li> </ul>

		<ul style="list-style-type: none"> <li>• Updated <i>Table I, Testing Requirements for Proprietary Treatment Products</i>, with updated references to testing protocols, added EPA Method 1664, Revision B as a testing requirement protocol for Category 2 products, and for clarity.</li> <li>• Updated <i>Table II, Test Results Reporting Requirements for Proprietary Treatment Products</i>, to separate disinfection levels from other treatment levels to allow for registration of supplemental (standalone) disinfection products, to allow bacterial reduction verification of Disinfection Level 1 (DL 1) via testing for fecal coliform or E. coli, and for clarity.</li> <li>• Updated <i>Table III, Product Performance Requirements for Proprietary Treatment Products</i>, to separate disinfection levels from other treatment levels to allow for registration of supplemental (standalone) disinfection products, to allow bacterial reduction verification via testing for fecal coliform or E. coli, to update requirements for nitrogen reduction verification, and for clarity.</li> <li>• Updated language for clarity.</li> </ul>
-0120	<b>Proprietary treatment product registration— Process and requirements.</b>	<ul style="list-style-type: none"> <li>• Updated description of product registration process to match the department’s current practices.</li> <li>• Updated references to testing protocols.</li> <li>• Updated reference to fee WAC (<i>WAC 246-272-2000</i>).</li> <li>• Added requirement that product manufacturers verify field performance according to departmental standards and guidance documents. Added requirement that manufacturers report reasons for product failure to meet field performance requirements to the department.</li> <li>• Changed from requiring an affidavit stating if a product has been changed at time of renewal to requiring an attestation.</li> <li>• Added provision for department to require compliance plans for product manufacturers whose products have led to concerns of public health risks.</li> <li>• Added requirement that manufacturers have product information available on their website.</li> <li>• Updated language for clarity.</li> </ul>
-0125	<b>Transition from the list of approved systems and products to the registered list –Treatment products.</b>	<ul style="list-style-type: none"> <li>• Removed section –obsolete</li> </ul>
-0130	<b>Bacterial reduction.</b>	<ul style="list-style-type: none"> <li>• Created disinfection treatment levels (DL1, DL2, and DL3), distinct from other treatment levels (TLA, TLB, and TLC) to allow manufacturers more flexibility in registration treatment products. <ul style="list-style-type: none"> <li>○ Allows treatment products to be registered without verification of bacterial disinfection.</li> <li>○ Allows registration of supplemental disinfection products.</li> </ul> </li> </ul>

		<ul style="list-style-type: none"> <li>○ Allows manufacturers and designers to combine components (that weren't originally tested together) in a treatment train to better meet the needs of certain sites and minimize costs.</li> <li>● Created new standard to allow for verification of bacterial reduction for DL1 via testing for E. coli.</li> <li>● Removed obsolete language referring to testing under previous versions of standards/protocols.</li> <li>● Added <i>NSF/ANSI Standard 385 Residential Wastewater Treatment Systems – Disinfection Mechanics</i> as an optional method to verify bacterial reduction for supplemental bacterial reduction products.</li> <li>● Updated language for clarity.</li> </ul>
-0135	Transition from the list of approved systems and products to the registered list –Bacterial reduction.	<ul style="list-style-type: none"> <li>● Removed section –obsolete</li> </ul>
-0140	Proprietary distribution products-Registration	<ul style="list-style-type: none"> <li>● Updated section title (caption).</li> <li>● Update language for clarity.</li> </ul>
-0145	Proprietary distribution product registration— Process and requirements.	<ul style="list-style-type: none"> <li>● Updated language to match the requirements and process in the treatment products section (-0120), and to include the department's current product registration practices.</li> <li>● Updated reference to fee WAC (<i>WAC 246-272-2000</i>).</li> <li>● Added requirement that manufacturers have product information available on their website.</li> <li>● Added provision for compliance plans for product manufacturers whose products have led to concerns of public health risks.</li> <li>● Updated language for clarity.</li> </ul>
-0150	Transition from the list of approved systems and products to the registered list -Distribution products.	<ul style="list-style-type: none"> <li>● Removed section –obsolete</li> </ul>
-0170	Product development permits.	<ul style="list-style-type: none"> <li>● Updated language for clarity.</li> </ul>

-0175	Transition from the experimental system program to application for product registration.	<ul style="list-style-type: none"> <li>• Removed section –obsolete</li> </ul>
-0200	Permit requirements.	<ul style="list-style-type: none"> <li>• Clarified when permits are and aren't required through introduction and use of new term, "Minor Repair."</li> <li>• Incorporated provisions from <i>WAC 332-130-145, Topographic elements on maps—Requirements</i> (DNR rule) into site plan requirements. These include: <ul style="list-style-type: none"> <li>○ A legend of symbols used</li> <li>○ Plan scale and a graphic scale bar</li> <li>○ Vertical datum used such as "assumed", "NAVD 88", "NSRS", or "unknown"</li> <li>○ Name, signature, stamp and contact information of the designer</li> <li>○ A statement on limitation of use indicating the site plan is not a survey</li> </ul> </li> <li>• Added new requirement for site plans to include: <ul style="list-style-type: none"> <li>○ Horizontal separation to site features listed on Table IV</li> <li>○ An elevation benchmark and relative elevations of system components</li> </ul> </li> <li>• Updated language for clarity.</li> </ul>
-0210	Location.	<ul style="list-style-type: none"> <li>• Updated <i>Table IV, Minimum Horizontal Separations</i>, including the following changes to Items Requiring Setback: <ul style="list-style-type: none"> <li>○ Removed "Suction line"</li> <li>○ Added "Non-public drinking water well"</li> <li>○ Combined public surface water source with public drinking water spiring</li> <li>○ Added "Non-public drinking water spring or surface water"</li> <li>○ Added "Non-public, in ground, drinking water containment vessel"</li> <li>○ Added "Easement for water supply line"</li> <li>○ Added "Closed geothermal loop or pressurized non-potable water line"</li> <li>○ Added "Lined stormwater detention pond"</li> <li>○ Added "Unlined stormwater infiltration pond"</li> <li>○ Added "Irrigation canal or irrigation pond"</li> <li>○ Added "Subsurface stormwater infiltration or dispersion component"</li> <li>○ Made changes for clarity</li> </ul> </li> <li>• Added statement that OSS components take precedence in cases of conflicts with stormwater components.</li> </ul>

		<ul style="list-style-type: none"> <li>Removed option for LHO to reduce horizontal separation from OSS components to in-ground swimming pools to 2 feet.</li> <li>Updated language for clarity.</li> </ul>
-0220	<b>Soil and site evaluation.</b>	<ul style="list-style-type: none"> <li>Removed requirement to report Suction Lines on site and soil evaluation report.</li> <li>Updated <i>Table V, Soil Type Descriptions</i>, for clarity.</li> <li>Added option for LHO to require a replacement site and soil evaluation if the site has been altered since the initial site and soil evaluation.</li> <li>Updated language for clarity.</li> </ul>
-0230	<b>Design requirements—General.</b>	<ul style="list-style-type: none"> <li>Changed requirement that an OSS for a single-family residence cannot be designed by a resident owner of the residence is “adjacent” to a marine shoreline, to the resident owner cannot design the OSS if the residence is within 200 feet of a marine shoreline.</li> <li>Updated reference for sewage tank compliance to chapter 246-272C WAC.</li> <li>Changed the design flow calculation section to distinguish between design flow calculation requirements (and related requirements) for a single-family residence with one additional dwelling served by one OSS, and requirements for multiple dwellings served by one OSS.</li> <li>Updated <i>Table VI, Treatment Component Performance Levels and Method of Distribution</i>, to: <ul style="list-style-type: none"> <li>Reduce required treatment levels and disinfection levels from Treatment Level B &amp; DL2 to treatment Level C &amp; DL3 for soil types 2 – 6 for sites with soil depths that range from 18” or greater to less than 24”. A literature review revealed that soil should be given more credit for treatment.</li> <li>Incorporate changes made to treatment standards (separating disinfection levels from other treatment levels).</li> </ul> </li> <li>Updated language for clarity.</li> </ul>
-0232	<b>Design requirements—Septic tank sizing.</b>	<ul style="list-style-type: none"> <li>Changed minimum septic tank size from 900 gallons to 1000 gallons.</li> <li>Added reference to <i>chapter 246-272C WAC On-site Sewage System Tanks</i>.</li> <li>Updated language for clarity.</li> </ul>
-0233	<b>Design requirements—Pump chamber sizing.</b>	<ul style="list-style-type: none"> <li>Added new section.</li> <li>Defined requirements for pump chamber sizing.</li> <li>Defined “Pump Basin.”</li> </ul>
-0234	<b>Design requirements—Soil dispersal components.</b>	<ul style="list-style-type: none"> <li>Modified <i>Table VIII, Hydraulic Loading Rates</i>, creating a new optional Column B, to allow higher loading rates for effluent treated to a higher treatment level. This allows smaller drainfields if the effluent is treated to a higher treatment level..</li> <li>Changed requirement that reserve drainfield must always be full sized to allowing reserve drainfield to be reduced sized if primary drainfield is reduced size, at LHO discretion.</li> </ul>

		<ul style="list-style-type: none"> <li>• Added requirement that gravity beds have a minimum of one lateral for every 3 feet in width.</li> <li>• Removed obsolete references.</li> <li>• Updated language for clarity.</li> </ul>
-0238	<b>Design requirements— Facilitate operation, monitoring and maintenance.</b>	<ul style="list-style-type: none"> <li>• Changed requirement for gravity OSS with effluent filters in the sewage tank to have tank access ports at finished grade to a requirement for all gravity OSS to have tank access ports at finished grade.</li> <li>• Added requirement to install at least one observation port on each SSAS lateral.</li> <li>• Added requirement that disinfection units must include an easy-access, freefall sampling port.</li> <li>• Clarified that subsurface drip systems are excluded from the requirement to have monitoring ports at the distribution device and infiltrative surface.</li> <li>• Updated language for clarity.</li> </ul>
-0250	<b>Installation</b>	<ul style="list-style-type: none"> <li>• Clarified restrictions on when LHO may allow a resident owner of a SFR to install an OSS, changing language from restriction when adjacent to marine shoreline to specific distances from marine water and surface water and precluding repairs meeting Table X.</li> <li>• Added reference to <i>chapter 246-272C WAC On-site Sewage System Tanks</i>.</li> <li>• Updated language for clarity.</li> </ul>
-0260	<b>Inspection</b>	<ul style="list-style-type: none"> <li>• Added provisions from <i>Engrossed Substitute Senate Bill 5503 (2019)</i>, now codified as <i>RCW 43.20.065</i>, that: <ul style="list-style-type: none"> <li>○ Require Local Health Officer (LHO) or a certified professional inspector to coordinate and obtain permission from owner before conducting an inspection; and</li> <li>○ Prohibit LHO's from requiring easements as a permit condition for inspection or maintenance for OSS that are on the same property that they serve.</li> </ul> </li> <li>• Defined minimum procedures for property transfer inspections and required routine OSS evaluations.</li> <li>• Added requirement that property transfer inspections are reported to LHJ on a LHO approved form.</li> <li>• Clarified that LHJ may require additional inspection report, or other information, for routine inspections.</li> <li>• Updated language for clarity and consistency.</li> </ul>
-0265	<b>Record drawings</b>	<ul style="list-style-type: none"> <li>• Updated language for clarity.</li> </ul>

<p><b>-0270</b></p>	<p><b>Operation, monitoring, and maintenance-Owner Responsibilities</b></p>	<ul style="list-style-type: none"> <li>• Added requirement for owner to request assistance from LHJ if OSS fails.</li> <li>• Added requirement for owner to get approval from Local Health Officer to begin use of an OSS.</li> <li>• Changed requirement for owner to get routine evaluation of their OSS to a requirement for owner to get a routine inspection, as defined in -0260.</li> <li>• Added requirement for owner to obtain a professional, 3<sup>rd</sup> party, inspection of OSS preceding property transfer. This requirement goes into effect 2 years after effective date of rule. Included provisions that LHO <u>may</u>:             <ul style="list-style-type: none"> <li>○ Remove the requirement for inspection preceding property transfer inspection if LHJ has evidence that the OSS is in compliance with routine inspections (required in -0270(1)(e));</li> <li>○ Verify the results of the property transfer inspection; and</li> <li>○ Require additional inspections and requirements.</li> </ul> </li> <li>• Added requirement that results of property transfer inspection are provided to LHJ on a form approved by the LHO.</li> <li>• Added provision that LHO may require a compliance schedule for repair of failures discovered during property transfer inspections.</li> <li>• Added prohibition on owners using any remediation process unless it is approved by the LHO.</li> <li>• Updated language for clarity and consistency.</li> </ul>
<p><b>-0278</b></p>	<p><b>Remediation</b></p>	<ul style="list-style-type: none"> <li>• Added new section.</li> <li>• Added option that Local Health Officer may develop a remediation policy.</li> <li>• Added minimum requirements for remediation.</li> <li>• Added requirement for department to maintain a guidance document on remediation.</li> </ul>
<p><b>-0280</b></p>	<p><b>Repair of failures</b></p>	<ul style="list-style-type: none"> <li>• Clarified that the LHO may permit OSS that meet Table X only in cases of repairs.</li> <li>• Added provisions from <i>RCW 43.20.065</i> that require:             <ul style="list-style-type: none"> <li>○ Priority be given to allowing a repair or replacement of a conventional OSS, consisting of a septic tank and drainfield, with a similar conventional OSS that complies with standards and provides comparable long-term treatment;</li> <li>○ Allowing repairs using the least expensive alternative that meets standards; and</li> <li>○ That LHO not impose or allow the imposition of more stringent performance requirements of equivalent OSS on private entities than public entities.</li> </ul> </li> <li>• Added requirement that LHO evaluate all unpermitted discharges to determine if they pose a public health threat. If determined to be a public health threat the LHO shall require a compliance schedule.</li> <li>• Added requirement that LHO report failures within 200 feet of shellfish growing areas to the department.</li> </ul>



		<ul style="list-style-type: none"> <li>• Added provision that LHO may require a compliance schedule for failures discovered during property transfer inspections.</li> <li>• Clarified owner’s options in cases of failure.</li> <li>• Added new <i>Table IX Options and Methods to Address an OSS Failure</i> to explain owner’s option in case of OSS failure.</li> <li>• Added requirement that OSS designer evaluate the causes of failure prior to designing the repair or replacement of an OSS.</li> <li>• Added requirement that OSS designer minimize impact of phosphorus discharge in areas where phosphorus has been identified as a contaminant of concern in the LMP.</li> <li>• Updated and renamed <i>Table X, Treatment Component Performance Levels for Repair of OSS Not Meeting Vertical and Horizontal Separations</i>, to incorporate changes made to treatment standards (separating disinfection levels from other treatment levels) and to correct inconsistencies with WAC 246-272A-0230.</li> <li>• Updated language and structure for clarity and consistency.</li> </ul>
-0282	<b>Minor repair of malfunctions</b>	<ul style="list-style-type: none"> <li>• Added new section.</li> <li>• Added requirement that LHOs require the minor repair of a malfunction to a functioning state.</li> <li>• Added provision that LHO may require a permit for a minor repair of a malfunction.</li> <li>• Added option for LHO to require owner to submit information regarding minor repairs.</li> </ul>
-0290	<b>Expansions</b>	<ul style="list-style-type: none"> <li>• Updated language for consistency and clarity.</li> </ul>
-0300	<b>Abandonment</b>	<ul style="list-style-type: none"> <li>• Clarified that tanks and other sewage containers can be removed or abandoned in place.</li> <li>• Added requirement that empty tanks be filled with soil or gravel if abandoned in place.</li> <li>• Added requirement to grade site to surroundings.</li> <li>• Clarified process.</li> <li>• Updated language for clarity.</li> </ul>
-0320	<b>Developments, subdivisions, and minimum land area requirements</b>	<ul style="list-style-type: none"> <li>• Changed title of Table XI.</li> <li>• Increased minimum land area requirement in <i>Table XI, Minimum Land Area Requirement For Each Single-Family Residence or Unit Volume of Sewage</i>, for lots served by a public water source, by 500 – 1000 square feet, depending on soil type. This changes the minimum lot size on Table XI from 12,500 to 13,000 sq ft for all lots served by public water supplies.</li> <li>• Added “Minimum Usable Land Area” requirement to Table XI. This is a new requirement. (See definitions for definition of minimum usable land area.)</li> <li>• Removed references to Method I and Method II lot sizing methods.</li> </ul>

		<ul style="list-style-type: none"> <li>• Added new methodology and new <i>Table XII, Maximum Allowable Total Nitrogen (TN) Load Per Day by Type of Water Supply, Soil Type, and Land Area</i> for developments that do not meet Table XI's requirement.</li> <li>• Changed minimum lot size from 12,500 to 13,000 sq ft for nonpublic water supplies for all new lots.</li> <li>• Reduced the maximum unit volume of sewage per day per acre from 3.5 to 3.35 for lots served by public water supplies for both Table XI and Table XII due to the change of minimum lot size from 12,500 to 13,000 sq ft for all lots served by public water supplies on Table XI</li> <li>• Added option for drinking water well water supply protection zones on new subdivisions to be located on multiple lots (to cross lot lines) if a copy of a recorded restrictive covenant is provided to each affected property owner.</li> <li>• Added clarifying language that LHOs may allow permitting of an OSS on a preexisting lot of record that does not meet current minimum land area requirements only if it meets all requirements of chapter 246-272A WAC without the use of a waiver under WAC 246-272A-0420.</li> <li>• Updated language and structure for clarity and consistency.</li> </ul>
-0340	<b>Certification of installers, pumpers, and maintenance service providers.</b>	<ul style="list-style-type: none"> <li>• Added requirement that Local Health Officer (LHO) establish approval procedures for maintenance service providers. Added allowance that LHO may allow reciprocity from other local health jurisdictions or third-party certification programs.</li> <li>• Clarified that LHO has authority to establish certification process for owners to inspect their OSS.</li> <li>• Updated language for clarity and consistency.</li> </ul>
-0400	<b>Technical advisory group.</b>	<ul style="list-style-type: none"> <li>• Updated section title (caption).</li> <li>• Added requirement that Technical Advisory Group (TAG) members are selected for three-year terms.</li> <li>• Added new professions to the list of potential TAG members.</li> <li>• Updated language for clarity and consistency with remainder of rule.</li> </ul>
-0410	<b>Policy advisory group.</b>	<ul style="list-style-type: none"> <li>• Updated section title (caption).</li> <li>• Added requirement that Policy Advisory Group (PAG) members are selected for three-year terms.</li> <li>• Updated language for clarity and consistency.</li> </ul>
-0420	<b>Waiver of state regulations.</b>	<ul style="list-style-type: none"> <li>• Added requirement that department publish an annual report summarizing waivers issued over the previous year.</li> <li>• Updated language for clarity and consistency with remainder of rule.</li> </ul>

## Key Draft Rule Changes

October 2023

# On-site Sewage Systems (OSS)

## Chapter 246-272A WAC

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This document lists the key proposed changes to the rule.



### Property Transfer Inspections

Beginning in 2027, all on-site sewage systems (OSS) must be inspected when the property is sold or the deed is transferred. The Local Health Officer (LHO) may remove this requirement if the OSS has had a recent routine inspection. The LHO may verify the results of the inspection, require additional inspections, and require that failed OSS discovered during the property transfer inspection are repaired on a set timeline.



### Minor Repairs

There is a new definition for “Minor Repair” to clarify that permits are not needed for some repairs.



### Repairs

The LHO must:

- Allow the least expensive repair or replacement of an OSS that meets the rule’s requirements.
- Evaluate all unpermitted sewage discharges and require any that pose a public health threat to be brought into compliance with the rule within a set timeframe.
- Report OSS failures to the Washington Department of Health if they are within 200 feet of shellfish growing areas.

LHOs may not impose more stringent repair requirements on private entities than public entities.



### Remediation

LHOs may develop a policy allowing OSS remediation practices to correct certain problems and failures. Remediation practices that damage the OSS or result in insufficient soil treatment are not allowed.



### Minimum Lot Sizes

Minimum lot sizes have been increased by 500 – 1000 sq ft, depending on soil type.



### Minimum Usable Land Area

New lots being served by OSS must have a certain land area that is usable for septic system installation and repairs. This land cannot be under water, paved, impacted by an easement, or otherwise unusable for the OSS.



### Field Verification of Proprietary Treatment Products

Manufacturers of OSS using disinfecting and nitrogen-treating proprietary treatment components must verify the efficacy of their products in the field. This will entail collecting samples from 25 installations in Washington State to evaluate their performance under field conditions.



### Product Supply Chain

Proprietary products may be retrofitted with components they were not tested with if there is a supply chain or other manufacturing disruption. The manufacturer must provide a statement from an engineer that the retrofit will not impact OSS performance or maintenance.



### Resilience

Sea Level Rise – LHOs in Puget Sound counties are required to identify areas where sea level rise may impact horizontal setbacks to OSS resulting in an increased risk to public health.

Phosphorus – LHOs in Puget Sound counties are required to identify areas where phosphorus has been found to be a contaminant of concern. They must identify measures to protect public health and water quality from phosphorus from new and repaired OSS in these areas. This is already an established requirement for areas where nitrogen is a contaminant of concern.

Nitrogen-based minimum lot size for small lots – Lots may be allowed to be made smaller than the minimums if certain safety measures are met and nitrogen treatment is installed on the OSS.

WASHINGTON STATE DEPARTMENT OF HEALTH

# Significant Legislative Rule Analysis

WAC 246-272A  
a Rule Concerning  
On-Site Sewage  
Systems



September 2023

To request this document in another format, call 1-800-525-0127. Deaf or hard of hearing customers, please call 711 (Washington Relay) or email [civil.rights@doh.wa.gov](mailto:civil.rights@doh.wa.gov).

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## Acronym List

CBOD5	carbonaceous biochemical oxygen demand (5 day)
DNR	Department of Natural Resources
EHD	Environmental Health Directors
EPA	Environmental Protection Agency
LHJ	Local Health Jurisdiction
LHO	Local Health Officer
LMP	Local Management Plan
NSF	NSF International
ORRC	Onsite Rule Review Committee
OSS	Onsite Sewage System
PTI	Property Transfer Inspection
TSS	Total Suspended Solids

## SECTION 1

**A brief description of the proposed rule including the current situation/rule, followed by the history of the issue and why the proposed rule is needed.**

Chapter 246-272A WAC, On-Site Sewage Systems, regulates the location, design, installation, operation, maintenance, and monitoring of on-site sewage systems (OSS). There are approximately 950,000 OSS in Washington that produce around 340,000,000 gallons of wastewater per day. This rule protects public health by minimizing both the potential for exposure to sewage from on-site sewage systems, and the adverse effects of discharges from on-site sewage systems on ground and surface waters.<sup>1</sup>

Local health officers (LHOs) have three options to enforce chapter 246-272A WAC. They can: adopt their own local code; adopted this rule by reference; or defer to chapter 246-272A WAC.

The State Board of Health (board) is authorized under RCW 43.20.050 to adopt rules for the design, construction, installation, operation, and maintenance of those on-site sewage systems with design flows of less than three thousand five hundred gallons per day. The Washington State Department of Health (department) implements these rules. The department is required to review chapter 246-272A WAC every four years to evaluate the effectiveness of the rules and determine areas where revisions may be necessary. The department is also required to provide results of the review along with recommendations to the board and local health officers. This requirement was adopted in 2005 and the department completed its first evaluation in 2009 and a subsequent evaluation in 2013. Both evaluations concluded with the finding that no revisions were necessary.<sup>2</sup>

In 2017, the department conducted an evaluation of the existing OSS rule, including gathering feedback on the rules from local health partners and interested parties. In December 2017, the department published the following report on the findings: 2017 Evaluation of the Effectiveness of Chapter 246-272A WAC, On-Site Sewage Systems.<sup>3</sup> The report identified seven key issues and several minor issues that should be considered for possible revision in rulemaking. The seven key issues were: Definitions, Local management plans, Property transfer inspections, Application of treatment levels, Ultraviolet light disinfection effectiveness and approval, Horizontal setbacks (system location) and Statewide service provider licensing. The department briefed the board in January 2018 and the Board directed staff to file a CR-101, Preproposal Statement of Inquiry. Staff filed the CR-101 as WSR 18-06-082 on March 6, 2018.<sup>4</sup>

The Washington state legislature passed Senate Bill 5503 in the 2019 legislative session, and it was codified as RCW 43.20.065.<sup>5</sup> The bill addressed repair and replacement of failed systems and system inspections. The law has been addressed in the rulemaking.

To assist and inform the rule revision process, and to ensure that chapter 246-272A WAC consistently promotes safe and effective operation of OSS, the board requested input and

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<sup>1</sup> Internal Document "2018 Socioeconomic Impact Survey of Hammersley Inlet Shellfish Growers." Available Upon Request.

<sup>2</sup> <https://doh.wa.gov/sites/default/files/legacy/Documents/Pubs/337-152a.pdf?uid=635807f46e5ae>

<sup>3</sup> [2017 Evaluation of the Effectiveness of Chapter 246-272A WAC, On-site Sewage Systems](#)

<sup>4</sup> <https://doh.wa.gov/sites/default/files/legacy/Documents/Pubs/337-152a.pdf?uid=635807f46e5ae>

<sup>5</sup> [RCW 43.20.065: On-site sewage system failures and inspections—Rule making.](#)



review from a statewide representation of diverse interested parties. The department formed the On-Site Rule Revision Committee (ORRC) in June 2018 to serve as this group and foster communication and cooperation between interested parties. The ORRCs role was informal and advisory to the department in this rulemaking. The ORRC proposed, made recommendations, and gave input to the rule. ORRC members include representatives from industry, regulators, consumers, and academia. Two subcommittees were formed to advise on policy and technical issues. The department drafted issue papers on several key topics for both subcommittees. These subcommittees worked on topics, held votes on topics, and ultimately made recommendations to the entire ORRC. The ORRC used majority voting when considering amendments that were forwarded to the department. There were proposals with unanimous support and others with simple majority.

The ORRC met nine times between June 2018 and February 2020 as a full committee and the department convened many associated subcommittee meetings that reported out to the full ORRC. The department shared a draft with interested parties for informal review and comment. In addition, the department conducted three in-person and one web-based public workshop concluding in October 2019. Based on comments received, the department made several changes to the draft rules. The department worked with environmental health directors from different areas of the state on the ORRC and separately to help fine tune the draft rules. See Section 6 for a discussion of changes made to the proposed rule language throughout the process.

## SECTION 2

### Significant Analysis Requirement

As defined in RCW 34.05.328, portions of the proposed rule make changes to chapter 246-272A WAC and requires a significant analysis. The department evaluated the proposed rules to determine rule sections that are considered “significant” or exempt under RCW 34.05.328(5) (b) and (c). Based on the evaluation, sections of the proposed OSS rules are significant legislative rules, subject to the requirements of RCW 34.05.328(5) and analyzed in the Section-by-Section Cost/Benefit Analysis in Section 5. Some sections of the proposed rule are considered exempt because they do not meet the definition of a significant rule, or they meet one of the exemption criteria in RCW 34.05.328(5) (b) and (c).

SA Table 1 identifies rule sections that have been determined exempt from significant analysis based on the exemptions provided in RCW 34.05.328(5) (b) and (c).

**SA Table 1. Summary of Sections not requiring Significant Analysis**

WAC Section and Title	Description of Proposed Changes	Rationale for Exemption Determination
WAC 246-272A-0001 Purpose, objectives, and authority	Changed onsite sewage system to OSS acronym.	Clarifies language of the rule without changing its effect - RCW 34.05.328 (5)(b)(iv).
WAC 246-272A-0005 Administration	Corrected list of applicable statutes.	Clarifies language of the rule without changing its effect - RCW 34.05.328 (5)(b)(iv).
WAC 246-272A-0007 Applicability  (Previously WAC 246-272A-0020)	Created new section to move Applicability section nearer the beginning of the chapter for ease of use. Clarified language describing that chapter applies to treatment, siting, design, installation, and operation and maintenance of OSS. Updated language for clarity.	Moved this section from WAC 246-272A-0020 to WAC 246-272A-0007. Clarifies language of the rule without changing its effect - RCW 34.05.328 (5)(b)(iv). Removed redundant language.
WAC 246-272A-0010 Definitions	Changed several definitions for clarity and consistency throughout rule. Changes to definitions include adding new definitions where necessary, deleting definitions that are not used anymore, and modifying definitions.	Clarifies language of the rule without changing its effect - RCW 34.05.328 (5)(b)(iv). Changes to definitions are identified and analyzed in context as part of the section –by-section analysis.

<b>WAC Section and Title</b>	<b>Description of Proposed Changes</b>	<b>Rationale for Exemption Determination</b>
WAC 246-272A-0013 Local Rules	Created a new section by taking a portion of WAC 246-272A-0015 and moving it to WAC 246-272A-0013. Moved Local Regulation to its own section, separate from local management plans (LMPs). Renamed to Local Rules. Updated language for clarity.	Restructured the section to improve comprehension, corrected typographical errors and clarified language of the rule without changing its effect - RCW 34.05.328 (5)(b)(iv).
WAC 246-272A-0170 Product development permits	Updated language for clarity.	Clarifies language of the rule without changing its effect - RCW 34.05.328 (5)(b)(iv).
WAC 246-272A-0240 Holding tank sewage systems	Updated language for clarity. Makes correct cross references to other rule requirements.	Clarifies language of the rule without changing its effect - RCW 34.05.328 (5)(b)(iv).
WAC 246-272A-0265 Record drawings	Made grammatical and format changes. Updated language for clarity.	Clarifies language of the rule without changing its effect - RCW 34.05.328 (5)(b)(iv).
WAC 246-272A-0310 Septage management.	Reformatted section for clarity and consistency.	Clarifies language of the rule without changing its effect RCW 34.05.328 (5)(b)(iv).
WAC 246-272A-0420 Waivers	Added requirement that department publish an annual report summarizing waivers issued over the previous year. Updated language for clarity and consistency with remainder of rule.	The proposed rule regarding the department's publication of an annual report is exempt under RCW 34.05.328(5)(b)(ii), relates only to internal governmental operations that are not subject to violation by a nongovernment party. The other amendments clarify language of the rule without changing its effect - RCW 34.05.328 (5)(b)(iv).
WAC 246-272A-0425 Required review of rules	Made grammatical changes and updated language for clarity.	Clarifies language of the rule without changing its effect - RCW 34.05.328 (5)(b)(iv).

WAC Section and Title	Description of Proposed Changes	Rationale for Exemption Determination
WAC 246-272A-0430 Enforcement	Made grammatical changes and updated language for clarity.	Clarifies language of the rule without changing its effect - RCW 34.05.328 (5)(b)(iv).
WAC 246-272A-0440 Notice of decision—Adjudicative proceeding	Made grammatical changes and updated language for clarity.	Clarifies language of the rule without changing its effect - RCW 34.05.328 (5)(b)(iv).

**Repealed Sections-**

The proposal repeals the following five rule sections: **WAC 246-272A-0020; WAC 246-272A-0125; WAC 246-272A-0135; WAC 246-272A-0150; WAC 246-272A-0175.** With the exception of WAC 246-272A-0020, as the content of this rule was moved to WAC 246-272A-0007, these sections are no longer needed and are repealed. These sections were initially added as a phased approach during the transition period for manufacturers to implement new rules.

## SECTION 3

### Goals and objectives of the statute that the rule implements.

There are three authorizing statutes that relate to these rules: RCW 43.20.050 powers and duties of the state board of health<sup>6</sup>, chapter 70A.110 RCW, on-site sewage disposal systems—marine recovery areas<sup>7</sup>, and chapter 70A.105 RCW, on-site sewage disposal systems. Combined, these statutes establish the policy for regulating OSS in Washington State. Below are limited excerpts from these statutes.

#### **RCW 43.20.050 Powers and duties of state board of health—Rulemaking—Delegation of authority—Enforcement of rules.<sup>8</sup>**

- (1) The state board of health shall provide a forum for the development of public health policy in Washington state. It is authorized to recommend to the secretary means for obtaining appropriate citizen and professional involvement in all public health policy formulation and other matters related to the powers and duties of the department. It is further empowered to hold hearings and explore ways to improve the health status of the citizenry.  
In fulfilling its responsibilities under this subsection, the state board may create ad hoc committees or other such committees of limited duration as necessary.
- (3) The state board shall adopt rules for the design, construction, installation, operation, and maintenance of those on-site sewage systems with design flows of less than three thousand five hundred gallons per day.

#### **Chapter 70A.110 RCW**

Requires all Puget Sound LHOs to develop an LMP by 2007. The intent of this statute is to authorize enhanced LHO OSS programs within Marine Recovery Areas (areas designated as needing enhanced protections) around the Puget Sound so that all OSS are identified, included in a sharable electronic data system, monitored for proper functioning, and repaired when there is a failure.

#### **RCW 70A.110.010 Findings—Purpose.<sup>9</sup>**

The legislature finds that:

- (1) Hood Canal and other marine waters in Puget Sound are at risk of severe loss of marine life from low-dissolved oxygen. The increased input of human-influenced nutrients, especially nitrogen, is a factor causing this low-dissolved oxygen condition in some of Puget Sound's waters, in addition to such natural factors as poor overall water circulation and stratification that discourages mixing of surface-to-deeper waters;
- (2) A significant portion of the state's residents live in homes served by on-site sewage disposal systems, and many new residences will be served by these systems;

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<sup>6</sup> [RCW 43.20.050: Powers and duties of state board of health—Rulemaking—Delegation of authority—Enforcement of rules. \(wa.gov\)](#)

<sup>7</sup> [Chapter 70.118A RCW Dispositions: ON-SITE SEWAGE DISPOSAL SYSTEMS—MARINE RECOVERY AREAS](#)

<sup>8</sup> [RCW 43.20.050: Powers and duties of state board of health—Rulemaking—Delegation of authority—Enforcement of rules. \(wa.gov\)](#)

<sup>9</sup> [RCW 70A.110.010: Findings—Purpose. \(wa.gov\)](#)

- (3) Properly functioning on-site sewage disposal systems largely protect water quality. However, improperly functioning on-site sewage disposal systems in marine recovery areas may contaminate surface water, causing public health problems;
- (4) Local programs designed to identify, and correct failing on-site sewage disposal systems have proven effective in reducing and eliminating public health hazards, improving water quality, and reopening previously closed shellfish areas; and
- (5) State water quality monitoring data and analysis can help to focus these enhanced local programs on specific geographic areas that are sources of pollutants degrading Puget Sound waters.

Therefore, it is the purpose of this chapter to authorize enhanced local programs in marine recovery areas to inventory existing on-site sewage disposal systems, to identify the location of all on-site sewage disposal systems in marine recovery areas, to require inspection of on-site sewage disposal systems and repairs to failing systems, to develop electronic data systems capable of sharing information regarding on-site sewage disposal systems, and to monitor these programs to ensure that they are working to protect public health and Puget Sound water quality.

**RCW 70A.105.100 Alternative systems—State guidelines and standards.<sup>10</sup>**

In order to assure that technical guidelines and standards keep pace with advancing technologies, the department of health in collaboration with local health departments and other interested parties, must review and update as appropriate, the state guidelines and standards for alternative on-site sewage disposal every three years. The first review and update must be completed by January 1, 1999.

The objectives of the proposed OSS rules are to protect public health by minimizing both the potential for exposure to sewage from on-site sewage systems, and the adverse effects of discharges from on-site sewage systems on ground and surface waters.

The proposed rules meet these general goals and specific objectives by revising the current OSS rules to update the standards for the design, construction, installation, operation, maintenance, and monitoring of OSS to ensure properly functioning OSS in Washington state.

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<sup>10</sup> [RCW 70A.105.100z: Alternative systems—State guidelines and standards. \(wa.gov\)](#)

## SECTION 4

**Explanation of why the rule is needed to achieve the goals and objectives of the statute, including alternatives to rulemaking and consequences of not adopting the proposed rule.**

The proposed rules will achieve the authorizing statute's goals and objectives because the rules provide a science-based set of standards that included consultation with a diverse set of interested parties. When adopted into the rule these standards will assist LHOs when establishing their own local OSS programs for the design, construction, installation, operation, and maintenance of on-site sewage systems with design flows of less than three thousand five hundred gallons per day.

There are no feasible alternatives to rulemaking because RCW 43.20.050(3) requires the board to adopt rules that protect public health related to OSS. The board last updated chapter 246-272A WAC in 2005. The proposed OSS rules include many clarifications and updates that will improve understanding by LHO's and citizens across the state and safe, consistent, implementation of the rules.

## SECTION 5

**Analysis of the probable costs and benefits (both qualitative and quantitative) of the proposed rule being implemented, including the determination that the probable benefits are greater than the probable costs.**

### Cost Survey

To help better understand the costs of each section of the rule, the department developed a cost survey and reached out to interested parties for usability testing to ensure the cost survey’s effectiveness (e.g., question format and wording, content, etc.). The department then sent the cost survey to interested parties based on the anticipated cost impact from the draft rule. As part of that process the department completed a comprehensive effort to reach the local government environmental health directors and wastewater program staff. The department also contacted industry member associations that represent them. The department made an exhaustive effort, described in more detail below, to reach those involved with the rule. SA Table 2 shows the numbers of professionals the department attempted to reach and the number that responded to the survey.

**SA Table 2. Target audience, number sent survey, and number of respondents.**

Interested Parties	# Sent survey	# Sent reminder	# Of respondents	% Of respondents*
Local Health Jurisdictions	34	34	20	59%
Manufacturers**	86	86	11	13%
Professional Engineers***	22,294 (ALL)	22,260	136	NA****
Designers	381	433	47	11%
Installers	1,278	1,299	60	6%
Maintenance Service Providers			19	

\* % of respondents is calculated using # of respondents divided by # sent reminder.

\*\* The National Onsite Wastewater Recycling Association (NOWRA) also circulated the survey to 24 corporate members. The department assumes that this list overlapped with the 86 manufacturers that the survey was circulated to via GovDelivery, therefore the 24 were not added into the table.

\*\*\* GovDelivery’s existing list for Professional Engineers includes all Licensed Professional Engineers. Therefore, the department utilized the list but added screening questions to the beginning of the survey to ask if they worked on OSS. Of the 22,294 who were sent the survey, which had 912 Professional Engineers who answered that they complete designs for new and repaired OSS in Washington State. Of the 912 respondents 777 (85%) responded no and were thanked for their time and the survey was ended, 135 (15%) responded yes and continued onto consent and to the survey. One additional Professional Engineer entered the survey through the industry survey and



therefore brought the number of respondents to 136. Of the 135 respondents in the Professional Engineer survey, 106 consented to the voluntary survey, 54 proceeded to contact information, and 45 proceeded to answer the first cost question.

\*\*\*\* For Professional Engineers NA was listed instead of a calculation because the department not targeting the full number of Professional Engineers on the GovDelivery list, only those that work on OSS in Washington State.

It is of note that not all respondents provided answers to all the survey questions, the detailed analysis in the section below provides the number of respondents for each question by listing the “N” number of observations.

Each target audience listed above in SA Table 2 had a unique set of questions. The following details the timeline and process followed for reaching each target audience:

- **Local Health Jurisdictions (LHJs)**
  - The department held a survey kickoff meeting on September 1, 2022, to walk the LHJ’s Environmental Health Directors (EHDs) and/or their designee through the survey instructions, methodology, and specific questions. Following the meeting, LHJs were sent the survey via e-mail. Reminders to fill out the survey were sent on September 13 & 23, 2022. While the survey was open the department held another meeting to answer questions on September 12, 2022. The survey was closed on September 23, 2022.
- **Manufacturers, Professional Engineers, Designers, Installers, and Maintenance Service Providers**
  - GovDelivery was utilized to send out the survey. To supplement the GovDelivery lists, the department asked LHJ EHDs to provide contacts for Maintenance Service Providers in their jurisdictions. The surveys matched to each respective profession were circulated via GovDelivery on November 4, 2022. The GovDelivery notice also included a PDF of survey instructions and instructional video about how to complete the survey. Reminders to fill out the survey were sent to each GovDelivery list on November 10 & 17, 2022. The survey was closed on Friday November 18, 2022.

## Survey Methodology

The cost survey separated costs by frequency type; once/one-time cost, annual costs or repeats on a specified number of years (e.g., 2 or 3 years) and unit costs. Once/One-time costs are costs that only occur once. Annual recurrent costs are costs that occur one time per year or repeats every 2, 3, 5, or 10 years. Unit costs are costs that occur multiple times and are associated with a multiplier (e.g., number of reports written, number of samples tested).

Respondents were asked to respond to time and cost questions by providing an exact answer or a best estimate. In the case that respondents were not able to provide an educated response, they were advised to leave the question blank. In the case that respondents knew that the question would not have a cost impact, they were advised to respond with a 0, rather than leaving the question blank.

To determine the cost of compliance, the department defined no cost, new cost, and additional cost. These costs were defined using the illustrative examples below.

- **No cost (\$0):** The draft rule requires you to fill out a report. You currently complete this report, and it meets the draft rule requirements. You would respond that your cost to comply with the draft rule is \$0.
- **New cost:** The proposed rule requires you to fill out a report. You do not currently complete any reports that meet the draft rule requirements. You would respond by providing cost estimates for the time and labor cost it would take to complete the report.
- **Additional cost to an existing requirement:** Additional costs refer to the new costs that would be incurred by changes to the rule. Do not include costs that you already incur. The draft rule requires you fill out a report. You currently complete this report, but the draft rule requirements add a new component to the report that you do not currently complete. You would respond by only providing the cost estimate for the time and labor cost it would take to add the new component to your existing report, not the cost of completing the entire report.

Survey respondents were advised to use weighted labor cost per hour when including labor by more than one staff member. The following example was provided to survey respondents to understand how to input the response:

**Example:**

- Staff A, 4 hours @ \$25 per hour (Total labor cost = 4 hours \* \$25 = \$100)
- Staff B, 2 hours @ \$40 per hour (Total labor cost = 2 hours \* \$40 = \$80)
- Weighted average calculation:

$$\frac{\$100 + \$80}{4 \text{ hours} + 2 \text{ hours}} = \frac{\$180}{6 \text{ hours}} = \$30 \text{ weighted cost per hour}$$

The survey defines labor as the amount of effort needed to complete the task to comply with the rule. If you were, for example, estimating the time to set up a policy and procedure, think about all the things you would need to accomplish that task from start to finish to comply with the proposed rule language (e.g., write, edit, review, meet, train, etc.). The labor needed to comply with the rule will differ depending on the rule language and what the question is. The department added example prompts for suggestions about what those might be in some places in the survey. The department depended on respondent expertise to best judge what should be included.

Costs were cleaned and analyzed using Microsoft Excel. In some cases, the department removed responses it deemed as an outlier using 2.4 standard deviations above the mean as the trigger.<sup>11</sup>

Note the department asked engineers and designers to identify the cost of the same activity or task. They both are authorized to design OSS so in these cases the owner would only be hiring one or the other not both.

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<sup>11</sup> Selected outlier responses more than 2.4 standard deviations from the mean were removed (Reference: Aquinis et.al, Best-Practice Recommendations for Defining, Identifying and Handling Outliers; Organizational Research Methods, pg. 270-301, 2013).

## Sectional analysis

### WAC 246-272A-0015 Local management plans

**Description:** This section identifies the local management plan (LMP) requirements for the Puget Sound LHOs and non-Puget Sound LHOs.

The proposed amendments add new requirements for LMPs and require the department and the LHO to routinely review and revise the LMP.

Specifically, the proposed amendments add five new requirements for LMPs:

1. LMP to assess phosphorus in areas where phosphorous has been identified as a contaminant of concern. Mitigating phosphorous can be a challenge but there are some options an LHO can use to mitigate its impact in the environment, including but not limited to, increasing minimum lot size to decrease density of OSS, increasing setbacks to surface water, and educating OSS owners to reduce the use of products that contain phosphorous.
2. Assess areas where sea level rise may impact adequate horizontal separations to surface water. Sea level rise could lead to pathogens and nutrients entering marine waters if septic tanks or OSS drainfields are inundated by marine water. There are multiple ways to address sea level rise, including but not limited to increasing the horizontal setbacks from the edge of system components to marine water to avoid marine flooding of OSS drainfields or requiring a higher level of treatment.
3. LHOs to provide a summary of program expenditures by activity, source of funds, and a strategy to fill any funding gaps to the department. This builds upon the current requirement for the LMP to describe the capacity of the LHO to adequately fund the plan, including the ability to find failing and unknown systems.
4. LHO to review and update, if necessary, the LMP every five years. If the LMP is updated, LHO must provide an opportunity for public input on the LMP.
5. LHO to report the following information annually to the department:
  1. Number of OSS;
  2. Number of unknown OSS identified;
  3. Number of failures found;
  4. Number of failures repaired; and
  5. Status of compliance with inspections required by WAC 246-272A-0270.

The proposed amendments also require:

- The department to review the LMP and determine if it needs revision within 2 years of the effective date of the rule.
- The department to review the LMP every five years following the initial review.
- The LHO to revise their existing LMP if the department determines it necessary.
- The department to update guidance and provide technical assistance for assisting LHOs with completing their LMP.

The proposed amendments on the topics above were based on the recommendations by the ORRC.

**Cost:** The department surveyed the twelve (12) LHOs that border Puget Sound to determine the estimated cost of implementing this section of the rule. SA Table 3 shows the results of the survey from 10 respondents that provided estimated costs.

**SA Table 3. Estimated cost to implement LMPs for LHOs Puget Sound counties**

Description	Cost Frequency	N	Range (\$)	Median (\$)	Mean (\$)	Standard Deviation (\$)
Cost of labor to update the existing and add new elements* to the LMP	One-time cost	8	2,400 – 96,000	20,835	37,228	36,739
Cost to revise the 10 existing LMP elements	One-time cost	9	2,400 – 384,000	8,400	57,114	123,610
Cost to collect and address public input to the LMP	Recurrent- Repeats every 5 years	10	440 – 240,000	6,826	33,179	73,399
Cost to the LHJ to review and update the LMP, if necessary (including cost to collect and address public input)	Recurrent- Repeats every 5 years	10	600 – 240,000	6,826	29,340	74,124
Cost to report all OSS data** to the department, at least annually (9 of 10 respondents reported that they already report all OSS data to the department)	Recurrent- Annual	1	304	N/A	N/A	N/A

\*New elements: an assessment of phosphorus, an assessment of sea level rise, a summary of program expenditures by activity, source of funds, and a strategy to fill any funding gaps to the department.

\*\*OSS data is the 1) number of OSS, 2) number of unknown OSS identified, 3) number of failures found, 4) number of failures repaired, and 5) status of compliance with inspections required by WAC 246-272A-0270.

**Benefit:** The benefit of the proposed amendments in this section is to ensure LMPs remain protective of public health by identifying the specific items that Puget Sound LHOs must address in their LMP and the process for LHOs and the department to follow for review and updates to the LMPs. Chapter 70A.110 RCW required all Puget Sound LHOs to develop an LMP by 2007. The intent of this statute is to authorize enhanced LHO OSS programs within Marine Recovery Areas (areas designated as needing enhanced protections) around the Puget Sound so that all OSS are identified, included in a sharable electronic data system, monitored for proper functioning, and repaired when there is a failure. Chapter 246-272A WAC requires the Puget

Sound counties to develop an LMP that covers their entire jurisdiction, with special emphasis on the marine recovery areas. The department reviews the LMPs to ensure they include and address all critical components.

The implementation of the Puget Sound LMPs has been accomplished through contracts with the LHOs and have proven to be successful at achieving the intent of the original statute. Most counties bordering Puget Sound have developed robust inventories of OSS in their jurisdiction and now accurately track inspection, failure, and repair rates. This has established an important and unprecedented baseline of data, which is now used to inform the public health system and other decision-makers, including partner agencies and tribal partners. The revisions will ensure that the LMPs:

- Consider phosphorus in areas where it has been identified as a contaminant of concern;
- Consider sea level rise;
- Consider the funding needed to implement the LMP, are updated when regularly and, are more transparent. Collectively, these plans will result in implementation of OSS programs which will protect public health and water quality;
- Continue to collect the appropriate data to continue the established metrics.

Together these changes will strengthen the individual LMPs and the protection of public health and the environment.

#### **WAC 246-272A-0025 Connection to public sewer system**

**Description:** This section establishes conditions when OSS must connect to a public sewer. If a local health officer determines an OSS has failed, the local health officer has the option to 1) Require hook-up to a public sewer system if one is within two hundred feet; or 2) Permit the repair or replacement of a conforming OSS only if a conforming OSS can be designed and installed.

This section also requires owners that have completed a Table IX repair in accordance with WAC 246-272A-0280 to abandon their OSS and connect to a public sewer system when 1) Connection is deemed necessary to protect public health by the local health officer; 2) An adequate public sewer system becomes available within two hundred feet of the existing building drain of the structures; and 3) The sewer utility allows the sewer connection. This section also authorizes the local boards of health to require a new development to connect to a public sewer system to protect public health if available.

Lastly, this section authorizes the local boards of health to require new development or a development with a failing system to connect to a public sewer system if it is required by the comprehensive land use plan or development regulations.

The proposed amendments to this section changes how to determine if a failed OSS is within the 200-foot threshold. In some cases, specifying the approach to determine the 200-foot distance may result in a cost savings. Some jurisdictions interpreted the 200 feet as the property line which triggered the possibility to connect to sewer, thereby causing the OSS

owner to pay for connections when the distance is greater than 200 feet (i.e., up to 200 feet plus distance from property line to building drain).

**Cost:** The department does not anticipate any compliance costs associated with this proposed section.

**Benefit:** This section establishes when a homeowner must connect to a public sewer system. The expected outcome is that this section applies to fewer properties than the current rule by clarifying the 200-foot distance from sewer to building drain, as opposed to the property line. This changes the number of cases where a failed OSS will be required to connect to a sewer (fewer OSS are within 200 feet from the building sewer rather than 200 feet from property line to sewer).

The clarified approach to determine the 200-foot distance threshold may result in cost savings if a local health department currently applied 200-foot distance cutoff to the property line, and not the building sewer. The major benefit is that the LHJs will have a consistent framework on how to process properties governed under this section.

#### **WAC 246-272A-0100 Sewage technologies**

**Description:** The current rule section establishes that the department must describe a sewage technology in the rule, be registered for use as described by the rule, or have standards for use as described or referenced in the rule.

The proposed amendment adds a provision that the department may remove, restrict, or suspend a product's approval for failure to meet the requirements of approval.

**Cost:** The department does not anticipate an additional cost for the added provision as it only applies if the manufacturer fails to meet the requirements of the approval. The department does not collect cost estimates for non-compliance events so the frequency of occurrence to date is unavailable.

**Benefit:** The benefit of the department having the clear authority to remove, restrict, or suspend a product's approval provides the department a method to ensure that products that are not protective of public health are removed from the approved list. This protects public health by ensuring that all products that are approved for use in Washington are safe and protective of public health.

#### **WAC 246-272A-0110 Proprietary treatment products— Eligibility for registration**

**Description:** This section establishes the process for manufacturers to have their products tested to the appropriate standard and obtain approval. Registration is required before LHOs can permit product use.

The proposed amendments in this section remove the requirement for disinfection from existing treatment component sequence classifications A, B, and C and:

- Adds new separate disinfection levels (DL) DL1, DL2, and DL3 (which is analyzed in section 246-272A-0130 below).

- Adds two new NSF International (NSF)/ANSI standards tests (NSF 385 and NSF 245) that manufacturers have the option to use to have their products approved for bacteriological or nitrogen reduction.
- Removes outdated EPA testing for Category 2 (commercial / high strength waste) and adds current testing option from EPA.
- Incorporates Proprietary Treatment Products Emergency Rule WAC 246-272A-0110 <sup>12</sup> by allowing manufacturers to submit a written request to substitute components in case of supply chain disruptions.

**Cost:** The department does not anticipate any additional compliance costs associated with the proposed rule section. The rule amendment adds new options for tests that manufacturers can use to have their products registered but does not remove existing requirements.

The NSF Standard 245 test, which is estimated by NSF to be up to \$20,000, reduces the nitrogen testing frequency to 6 months, to match the NSF standard 40 duration. The NSF Standard 385 test, which is estimated to be up to \$41,000 depending on the technology, allows for a separate add-on disinfection unit to have standalone testing. The new testing protocol costs less than the entire sequence train (NSF 40 and NSF 245 or NSF 385) which costs approximately \$137,000 for Standard 40 + NSF Standard 245, OR \$158,000 Standard 40 + Standard 385. <sup>13</sup> SA Table 4 and SA Table 5 walks through the NSF and ANSI existing testing protocols.

**SA Table 4. The National Sanitation Foundation and The American National Standards Institute’s Category 1 Existing testing protocol (per product)**

NSF* & ANSI* Standard	Test frequency	Test parameters	Lowest estimated cost	Estimated cost for compliance (per product)
<b>Category 1 Existing testing protocol (per product)</b>				
Standard 40 for Residential Wastewater Treatment Systems	6 months	<u>Influent Samples:</u> TSS & BOD - 5 x per week, Alkalinity - 1 x per week, AND <u>Effluent Samples:</u> TSS & CBOD - 5 x per week	\$117,000	Option 1. Just NSF 40 to be registered at Treatment Level E, D <b>\$117,000</b>
				Option 2. **Treatment Level A, B, or C with NSF 385 (+\$41,000) <b>\$158,000</b>
				Option 3. ***NSF 245 for Treatment Level N (+\$20,000) <b>\$178,000</b>

<sup>12</sup> [Proprietary Treatment Products Emergency Rule | Washington State Department of Health](#)

<sup>13</sup> Staff discussion with NSF employee. Costs presented are estimates.

Standard 41: Non-Liquid Saturated Treatment Systems	Minimum 6 months	Minimum 6 month- controlled lab test, AND Minimum field testing of at least three in-use systems	\$57,000	\$57,000
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\* NSF = NSF International, ANSI =American National Standards Institute

\*\* For Treatment Level A, B, or C systems, bacteriological testing is required in addition to Standard 40.

\*\*\* Adding Nitrogen treatment to a Treatment Level A, B, or C system also currently requires NSF 245 testing.

**SA Table 5. The National Sanitation Foundation and The American National Standards Institute’s Category 1 - Proposed standalone testing protocols (per product)**

NSF* & ANSI* Standard	Test frequency	Test parameters	Lowest estimated cost	Estimated cost for compliance (per product)
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**Category 1 - Proposed standalone testing protocols (per product)**

Standard 40 for Residential Wastewater Treatment Systems	6 months	<u>Influent Samples:</u> TSS & BOD - 5 x per week, Alkalinity - 1 x per week, AND <u>Effluent Samples:</u> TSS & CBOD - 5 x per week	\$117,000	\$117,000
Standard 41: Non-Liquid Saturated Treatment Systems	Minimum 6 months	Minimum 6 month- controlled lab test, AND Minimum field testing of at least three in-use systems	\$57,000	\$57,000
Standard 245 for Nitrogen Reduction	6 months	<u>Influent Samples:</u> NSF/ANSI 40 testing plus Alkalinity, Ammonia, TKN, & NO2/NO3 - 3 x per week, AND <u>Effluent Samples:</u> NSF/ANSI 40 testing plus Alkalinity, Ammonia, TKN, & NO2/NO3 - 3 x per week	\$20,000	\$20,000



Standard 385 for Disinfection Mechanics	Technology dependent test length, minimum 6 months	<u>Influent and Effluent</u> Fecal Coliform (or E.coli for DL1) 1x day for 6 months	\$41,000	\$41,000
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\* NSF = National Sanitation Foundation, ANSI =American National Standards Institute

**Benefit:** The benefits of the proposed amendments are that manufacturers will have more options when designing, manufacturing, and registering proprietary treatment products while maintaining protections for public health.

Specifically, by creating separate disinfection levels and adding additional testing options for product approval and verification the amendments provide:

- More flexibility for manufacturers to register different products without having to conduct extra, unnecessary testing;
- A framework to use E. Coli testing as an option for Disinfection Level 1 systems (discussed in more detail in the section WAC 246-272A-0130);
- An updated test option for Category 2 treatment systems, which will allow new products to be testing and registered, adding additional options for commercial onsite sewage systems or those with sources of high waste strength (i.e., gas stations, restaurants, grocery stores).

It is the department’s understanding that Washington State is the first in the nation to allow this option of allowing the manufacturers to pick and choose which NSF test is best for their products.

**WAC 246-272A-0120 Proprietary treatment product registration—Process and requirements**

**Description:** This section establishes the required content and submittal process for manufacturers to use to register their products. It is typical for the department to review and approve one or two products annually per manufacturer, but this could change based on technology and innovation. The proposed amendments to this section that have been identified for potential cost impacts include:

- Clarifying the name and other identifying information from applicants;
- Adding a new field verification component to the renewal process. The field verification process consists of completing and submitting a field verification report that demonstrates the product effectiveness for bacteria removal through analysis of field-collected samples for either E. coli or fecal coliform;
- Changing from requiring an affidavit stating what changes have been made to a product at the time of product registration renewal to requiring this statement in the form of an attestation. The department currently requires manufacturers to mail a notarized signed affidavit describing any changes that have been made to the product to the department. This is done to verify if retesting is needed;

- Requiring manufactures to provide a statement that all required dated manuals are current or submit the updated and dated new manuals;
- Requiring the department to provide a compliance plan to manufacturers (to correct deficiencies) within ninety days of product registration application based on departmental concerns of public health risk related to the product;
- Manufacturers must post materials on their website, previously they had to have the materials accessible.

**Cost:** The department received survey responses from nine manufacturers. The department considers the first and third bullets above as minor administrative functions and did not survey on these changes. The department also does not collect cost estimates for non-compliance events so did not complete a survey on the cost of the compliance plan because this only applies if a manufacturer is having problems. SA Table 6 shows the estimated costs for maintenance service providers of taking a pair of samples for E. coli or fecal coliform.

Only one of six manufacturers indicated they would hire a third-party contractor to take the required 25 sample sets during a routine maintenance visit due to logistical restrictions. Additionally, 6 out of 11 manufacturers indicated that they already maintain a company website so the cost to post the materials was included in their costs to maintain an up-to-date website. Six manufacturers provided cost estimates to post the materials. The table does not include the cost of 25 pairs of samples. The department contacted and received cost information for 50 samples. The department was given a cost of \$28 - \$65 per sample<sup>14</sup> depending on the test technique; for a total cost for 50 samples ranging between \$2,000 and 3,250. <sup>15</sup> SA Table 6 presents the costs to manufactures to adhere to propriety treatment product registration, process, and requirements for proposed field verification.

**SA Table 6. Estimated cost to adhere to the Field Verification component of the proprietary treatment product registration, process, and requirements\***

Description	Cost Frequency	N	Range (\$)	Median (\$)	Mean (\$)	Standard Deviation (\$)
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**Manufacturers**

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<sup>14</sup> Range: \$28 per sample (Lewis County) to \$65 per sample. [AmTest Laboratories](#) quoted \$40/sample.

<sup>15</sup> \$28 X 50 samples = \$1,400, \$65 X 50 samples= \$3,250.

Cost to collect a pair (one influent AND one effluent) of samples, during a routine maintenance service visit NOT including travel	Unit	5	4.28 - 47.50	24	23.66	16.65
Cost to collect a pair (one influent AND one effluent) of samples, during a non-routine maintenance service visit (including travel)	Unit	5	For one pair 50 – 292  For 25 pairs 1,250 - 7,300	65	147.10	122.81
Cost to take the pair of influent and effluent samples to the lab	Unit	5	68.50 – 190	120	126.90	50.82

Cost to complete a product field verification process report (not including sampling costs)	Unit	6	144 - 48,000	3188	10,353	18,682
Cost to hire a service provider or a third-party sampler to collect 25 pairs of samples	Unit	6	5,225 100,000	20,000	34,038	35,936
Cost to post required materials on website	One-time	6	20 – 450	65	141	170

\*In the past two years the department has received applications for four treatment productions and one distribution product, which helps to estimate the total cost.

**Benefit:** The proposed amendments will protect public health by clarifying and modernizing the requirements for manufacturers to follow for proprietary treatment product registration and adding a field verification requirement. Specifically:

- The requirement to clarify the name and other identifying information from product registration applicants will provide the department important information in case manufacturers need to be contacted or legal action needs to be taken. The department currently requires this information in the application process. This amendment would update the rule language to the current process, creating more transparency and clarity around the registration process.
- The requirement for manufacturers to complete a field verification process for proprietary treatment products will verify that the treatment levels assigned to OSS proprietary treatment products are being met under actual use conditions. These products are currently tested only at testing facilities with no field testing required. This amendment will protect public health and the quality of Washington’s groundwaters and surface waters.
- Changing from requiring an affidavit stating what changes have been made to a product at the time of product registration renewal to requiring this statement in the form of an attestation will allow the department to simplify and digitize the product registration renewal process. The department plans to allow manufacturers to submit their renewals via email or an internet-based interface using an attestation to no longer require notarized signatures stating if the product has been changed.
- The requirement for manufacturers to provide a statement that all their dated manuals are current and provide any updated versions of the manuals to the department allows users of these products, industry professionals, the department, and all other interested parties to have the most current and relevant information on operation and maintenance of their products. This will facilitate the most efficient and safe operation and maintenance of these products possible.
- The requirement for the department to provide the manufacturer a compliance plan (to correct deficiencies) within 90 days of product registration based on departmental concerns of public health risk related to the product provides the department a method to allow manufacturers a method to demonstrate they have addressed any issues that potentially interfere with operation and/or maintenance of their products.
- The requirement for manufacturers to post current materials on their website ensures that proprietary treatment technologies used in OSS provide current information to the citizens of Washington state.

the department anticipates that costs associated with testing, field verification, and registration of these products will be reasonable compared to their overall cost.

### **WAC 246-272A-0130 Bacteriological reduction**

**Description:** This section establishes the requirements for registering bacteriological reduction processes. The proposed amendments to this section:

- Create three new disinfection levels (Disinfection Level 1 or “DL1”, Disinfection Level 2 or “DL2”, and Disinfection Level 3 or “DL3”) that manufacturers can use to get their products registered as a standalone treatment component and as part of a treatment component sequence registered for the appropriate treatment level. The treatment levels are currently designated A, B, and C, and include disinfection carbonaceous biochemical oxygen demand (CBOD5) and total suspended solids (TSS).
- Add an option to test for E. coli to register treatment devices as meeting DL1. The proposed amendments do not remove or change fecal coliform as an option for registering treatment devices as meeting DL1, DL2, or DL3.

**Cost:** The department does not anticipate any additional costs imposed by the amendments to this section of the rule. For products registered for DL1, the new E. coli test is optional, and the cost is comparable to the fecal coliform option. A manufacturer can still elect to certify their equipment using the fecal coliform option in accordance with WAC 246-272A-0130.

**Benefit:** NSF 385 allows separate testing of add-on disinfection units. Previously the entire treatment component sequence had to be tested. This allows different disinfection units to be attached to any treatment component sequence (i.e., not required to use any particular company’s product). This flexibility helps manufacturers, OSS designers, and OSS owners.

#### **WAC 246-272A-0145 Proprietary distribution product registration -Process and requirements.**

**Description:** This section describes the process and requirements to register proprietary distribution products.

The proposed amendment adds that the department must provide a compliance plan to manufacturers (to correct deficiencies) within ninety days of product registration application based on departmental concerns of public health risk related to the product.

**Cost:** The department does not anticipate an additional cost for the added provision as it only applies if the manufacturer fails to meet the requirements. The department does not collect cost estimates for non-compliance events so the frequency of occurrence to date is unavailable. The department acknowledges that there will be additional costs of staff time should the manufacturer need to provide a compliance plan to manufacturers.

**Benefit:** The proposed requirement for the department to provide the manufacturer a compliance plan (to correct deficiencies) within 90 days of product registration based on departmental concerns of public health risk related to the product provides the department a method to allow manufacturers a method to demonstrate they have addressed any issues that potentially interfere with operation and/or maintenance of their products. This provides the department a method to ensure that products that are not protective of public health are removed from the approved list. This protects public health by ensuring that all products that are approved for use in Washington are safe and protective of public health.

## **WAC 246-272A-0200 Permit requirements**

**Description:** This section specifies the permit application content when a person proposes the installation, repair, modification, connection to, or expansion of an OSS. The proposed amendments clarify that permits are not needed for minor repairs (types of projects are identified in the definition of minor repairs in WAC 246-272-0010). Three additional project types were added to the definition. They include control panels, any portions of tight line in the OSS, and effluent filters. OSS owners can make minor repairs without having to get a permit from the LHO. The amendments also add five items to the OSS site plan requirements that the Washington State Department of Natural Resources (DNR) currently outline within the DNR rule WAC 332-130-145 Topographic elements on maps—Requirements.<sup>16</sup> DNR requested that the department include these items to the required topographical map elements in the rule revision and exempted under RCW 34.05.328(5)(b)(iii).<sup>17</sup>

- (1) The following elements must be included on every map that includes topographic elements:
- (a) Vertical datum used (such as "assumed," "NAVD 88," "NSRS," "unknown");
  - (b) North arrow;
  - (c) Map scale and graphic scale bar;
  - (d) Legend of symbols used;
  - (e) Licensee name and contact information;
  - (f) Seal and signature of licensee.

The proposed change adds a requirement for site maps to include 1) horizontal separations as noted in Table IV, 2) an elevation benchmark, and 3) relative elevations of system components.

The section also identifies the things an applicant must demonstrate to the LHO when the OSS adds restrictive covenant as a method to allow access for construction, operation, monitoring, maintenance, and repair of the OSS. The current rule only allows a recorded easement to allow access. LHs charge the same amount for recording (\$203.50 for first page and \$1 for each additional page). The authority to charge fees is in RCW 36.18.010.

**Cost:** Costs associated with these newly added components are assumed to be included in DNR rules. SA Table 7 shows the anticipated one-time cost for designers and engineers to add the specified items to their designs.

The results of our survey found that 34 of 40 Designer respondents already include these new components in their site plans. Therefore, they would not have additional costs to comply with the rule.

The department received survey responses from 10 designers and 10 engineers about adding new elements to designs. SA Table 7 and SA Table 8 present estimated costs to the proposed changes in rule.

### **SA Table 7. Estimated cost to Designers to adhere to permit requirements**

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<sup>16</sup> [WAC 332-130-145](#):

<sup>17</sup> 34.05.328(5)(b)(iii) Rules adopting or incorporating by reference without material change federal statutes or regulations, Washington state statutes, rules of other Washington state agencies, shoreline master programs other than those programs governing shorelines of statewide significance, or, as referenced by Washington state law, national consensus codes that generally establish industry standards, if the material adopted or incorporated regulates the same subject matter and conduct as the adopting or incorporating rule.

Description (responses)	N	Range (\$)	Median (\$)	Mean (\$)	Standard Deviation (\$)
One-time cost to add horizontal separations as noted in Table IV into design process	4	6.25-900	250	352	385
Unit cost to put the horizontal separations as noted in Table IV into one OSS design <b>Low-end range**</b>	4	6.25-500	175	164	122
Unit cost to put the horizontal separations as noted in Table IV into one OSS design <b>High-end range**</b>	4	12.50-500	225	241	209
One-time cost to add elevation benchmark as noted in Table IV into design process*	10	6.25-1,200	150	306	409
Unit cost to add elevation benchmarks on one site map* <b>Low-end range**</b>	9	6.25-512	31	151	181
Unit cost to add elevation benchmarks on one site map* <b>High-end range**</b>	8	12.50-1,316	50	284	452
One-time cost to add relative elevations of system components as noted in Table IV into design process*	7	6.25-900	81	223	316
Unit cost to add relative elevations of system components on one site map* <b>Low-end range**</b>	7	6.25-512	150	170	188
Unit cost to add relative elevations of system components on one site map* <b>High-end range**</b>	6	12.50 - 368	170	368	503

\*These are items covered under WAC 332-130-145 (1)

\*\*Respondents were asked to provide a range of costs (rows are denoted in grey) and the department analyzed the low end and high end of the range to better understand the potential minimum cost and maximum cost of compliance.

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**SA Table 8. Estimated cost to Engineers to adhere to permit requirements.**

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Description (responses)	N	Range (\$)	Median (\$)	Mean (\$)	Standard Deviation (\$)
One-time cost to add horizontal separations as noted in Table IV into design process	8	180 - 22,500	11,050	10,765	7,531
Unit cost to put the horizontal separations as noted in Table IV into one OSS design <b>Low-end range**</b>	7	0 – 6000	520	1,207	2,129
Unit cost to put the horizontal separations as noted in Table IV into one OSS design <b>High-end range**</b>	7	300 - 72,000	900	11,121	26,850
One-time cost to add elevation benchmark as noted in Table IV into design process	10	150 - 8,000	800	1,620	2,348
Unit cost to add elevation benchmarks on one site map <b>Low-end range**</b>	9	37.50 - 3,250	390	731	1,014
Unit cost to add elevation benchmarks on one site map <b>High-end range**</b>	9	300 - 5,200	700	1,351	1,531
One-time cost to add relative elevations of system components as noted in Table IV into design process*	6	200 - 8,000	795	1,932	3,019
Unit cost to add relative elevations of system components on one site map* <b>Low-end range**</b>	6	150 - 8,000	570	1,982	3,065
Unit cost to add relative elevations of system components on one site map* <b>High-end range**</b>	6	300 - 8,000	1,200	2,250	2,937

\*These are items covered under WAC 332-130-145 (1)



\*\*Respondents were asked to provide a range of costs (rows are denoted in grey) and the department analyzed the low end and high end of the range to better understand the potential minimum cost and maximum cost of compliance.

**Benefit:** The benefit of the proposed amendments is that it clarifies that a permit is not required for minor repairs and adds three new project types to minor repairs. This will save OSS owners from having to obtain a permit for these projects, saving permit costs and facilitating a quicker repair.

Adding the DNR map items to OSS site plans consistently will help all that use them including OSS owners, staff from both agencies, and LHO staff during the design and review process.

Adding a requirement for site maps to include 1) horizontal separations as noted in Table IV, 2) an elevation benchmark, and 3) relative elevations of system components is that it provides crucial information that designers need when designing OSS, installers need when installing OSS, and LHOs need when reviewing permits.

The benefit of adding an option to record a restrictive covenant that allows owners access for construction, operation, monitoring, maintenance, and repair for OSS or OSS components on neighboring properties is that it gives OSS owners more flexibility than allowing only easements for this purpose (as the current rule does). The owner of land cannot grant an easement to themselves. This prevents or complicates owners from purchasing neighboring properties for their OSS or OSS components. An owner may, however, create a restrictive covenant on a neighboring property that they own for their OSS.

**WAC 246-272A-0210 Location**

**Description:** This section establishes minimum horizontal separations (distance) in Table IV of this section for septic tanks, drainfield and building sewers to various water sources to prevent pollution. The proposed amendments in this section add the following new types of sources to protect:

- 1) non-public in-ground water containment vessels,
- 2) closed geothermal loop or pressurized non-potable water line,
- 3) lined stormwater detention pond;
- 4) unlined stormwater infiltration pond;
- 5) subsurface stormwater infiltration or dispersion component

The amendments also clarify the descriptions of some of the components on the list.

The required setback (distance from OSS components) is based on the level of risk. The greater the risk, the greater the required setbacks (e.g., 100 feet setback from an unlined stormwater infiltration pond as compared to 30 feet setback from a lined stormwater detention pond).

**Cost:** The department received survey responses from 4 designers and 8 engineers on the cost of adding any or all the new source types to site maps. SA Table 9 presents the estimated costs.

**SA Table 9. Estimated cost to include any of all source types to a site map**

Description*	N	Range (\$)	Median (\$)	Mean (\$)	Standard Deviation (\$)
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<b>Designer</b>					
One-time cost to incorporate the items that you currently do not include from current Table IV into the design process	4	6.25 - 900	250	352	385
One-time cost to incorporate the items that you currently do not include from current Table IV into one OSS design <b>Low-end range**</b>	4	6.25 - 500,241	175	164	122
One-time cost to incorporate the items that you currently do not include from current Table IV into one OSS design <b>High-end range**</b>	4	12.50 - 500	225	241	209

<b>Engineer</b>					
One-time cost to incorporate the items that you currently do not include from current Table IV into the design process	8	180 - 22,500	11,050	10,766	7,531
One-time cost to incorporate the items that you currently do not include from current Table IV into one OSS design <b>Low-end range**</b>	7	0 - 6,000	520	1,207	2,129
One-time cost to incorporate the items that you currently do not include from current Table IV into one OSS design <b>High-end range**</b>	7	300 - 72,000	900	11,121	26,850

\*This includes adding any or all of the following components to a site map if they exist on the site: 1) non-public in-ground water containment vessels, 2) closed geothermal loop or pressurized non-potable water line, 3) lined stormwater detention pond; 4) unlined stormwater infiltration pond; or 5) Subsurface stormwater infiltration or dispersion component.

\*\*Respondents were asked to provide a range of costs (rows are denoted in grey) and the department analyzed the low end of the range and the high end of the range to better understand the potential minimum cost and maximum cost to compliance.

The setbacks will impact some developments (individual lots and subdivisions). By requiring additional setbacks, this may restrict how these lots can be laid out (require house placement in different area or potentially the size/footprint of the house). Conceivably, this could prevent the development of a lot if the extent of threats to water sources, with their associated setbacks, resulted in no viable building site unless the applicant requested and received a

waiver. This impact is difficult to predict because it depends on the existence of the newly proposed components on the protected sources list.

**Benefit:** The proposed amendments will protect public health, groundwater, and surface water resources in the state (including drinking water sources). They will also protect OSS owners' and their neighbors' property. Specifically:

- Adding water containment vessels as a new item requiring setback from OSS components will protect private drinking water supplies that depend on water containment vessels for their water supply. There is currently no setback requirement to water containment vessels.
- Adding closed geothermal loop and pressurized non-potable water line as items requiring setback from OSS components will protect these piping systems (and related facilities) and OSS from encroachment between the two. Any of these systems can be damaged when the other is installed or repaired too close to the other. OSS can be damaged by leaks and failures of geothermal loop systems and other non-potable water lines if they are too close. Any damage to any of these systems is likely to be costly to repair. There is currently no setback requirement to closed geothermal loops and pressurized non-potable water lines.
- Adding stormwater facilities as new items requiring setback from OSS components will protect both the OSS and stormwater facilities from being hydrologically overloaded by the other. An OSS that is hydrologically overloaded is not able to appropriately treat sewage and is likely to fail. The current setback to stormwater facilities is too small and allows OSS and stormwater facilities to be installed where they could impact each other.

Each of these proposed new setbacks add protective buffers around OSS facilities. This protects public health, water quality, and the owner's property by ensuring the OSS functions as well as possible with as few potential impacts as possible.

The ORRC supported these changes because there has been an increase in conflicts between these components and OSS components. The department anticipates that the potential for these conflicts will increase in the future as building density increases. The proposed amendments take a precautionary approach to prevent these conflicts before they impact public health.

### **WAC 246-272A-0220 Soil and site evaluation**

**Description:** This section identifies minimum soil and site evaluation criteria for developing a site. Only professional engineers, designers, or LHOs are authorized to perform soil and site evaluations. The proposed amendments add the option for local health officer to require an additional evaluation if the site is altered after its original evaluation.

**Cost:** The owner would have to pay the cost of the additional evaluation only if their site was altered, something the owner is responsible for making sure does not happen (in current rule). Some jurisdictions conduct the evaluations and others use professional engineers or designers.

These are not considered compliance costs with the new rule because they would not be needed unless a site was altered.

**Benefit:** The proposed amendments protect public health, water quality, and the property owner. OSS depend on undisturbed soil structure to treat sewage. OSS drainfields (and other subsurface soil absorption systems) are known to fail prematurely (if not immediately) when installed in disturbed soil. In current rule, if the LHO has been informed or otherwise finds out the site has been altered following the original site evaluation, not allowing it to treat sewage as originally designed, the LHO's responsibility is to require a redesign of the OSS and educate the owner on the requirement to install drainfields (and other subsurface soil absorption systems) in undisturbed soil. The current rule language is not as clear as it should be on the requirement to maintain the site in an undisturbed state. For example, it is common for owners and builders to disturb the site and report that they did not know that they shouldn't have. This amendment clarifies to owners and builders that the rule allows the LHO to require an additional evaluation if the site is altered.

### **WAC 246-272A-0230 Design requirements—General**

**Description:** This section identifies design requirements for OSS. The proposed amendments:

- Clarify an OSS for a single-family residence cannot be designed by a resident owner if the residence is within 200 feet of a marine shoreline.<sup>18</sup> The current language does not allow OSS that are "adjacent" to a marine shoreline to be designed by a resident owner. This change adjusts the requirement to match the definition of "Shorelands" in chapter 90.58 RCW *Shoreline Management Act of 1971*. This definition is well established and is applied in related rules. Provides LHOs more flexibility regarding design standards for single-family residences with additional dwellings served by the same OSS. The current rules require OSS to have a minimum of 240 gallons per day design flow for an OSS for a single-family residence. This is the design flow for a 2-bedroom residence (i.e., 120 gallons per day per bedroom). The rule's intent (behind this currently existing requirement) is to disallow OSS designed for a 1-bedroom home since these OSS are known to have a very high rate of premature failure. Some LHOs allow an OSS to serve an additional 1-bedroom single-family residence dwelling unit if the OSS is designed to treat the sewage as calculated by considering all of the bedrooms as part of the same residence. Other LHOs have required that all residences connected to the OSS are calculated at minimum as 240 gallons per day (2-bedrooms) regardless of if they are actually a 1-bedroom residence. The amendments clarify OSS must have a minimum design flow of 240 gallons per day for one single family residence and that LHJs can allow an OSS to serve additional single-family residences and additional dwelling units with a minimum design capacity of 120 gallons per day for each additional bedroom. LHJs that allow multiple additional dwellings served by a single OSS must require a management arrangement that identifies the OSS owner's responsibilities to operate

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<sup>18</sup> [RCW 90.58.030](#) (2)(d) "Shorelands" or "shoreland areas" means those lands extending landward for two hundred feet in all directions as measured on a horizontal plane from the ordinary high water mark; floodways and contiguous floodplain areas landward two hundred feet from such floodways; and all wetlands and river deltas associated with the streams, lakes, and tidal waters which are subject to the provisions of this chapter; the same to be designated as to location by the department of ecology.

and maintain the OSS. The management arrangement must include legal documentation (e.g., a recorded easement or restrictive covenant) allowing access for construction, operation, monitoring, maintenance, and repair of the OSS.

- Change Table VI Treatment Component Performance Levels and Method of Distribution to specify DL1, DL2 and DL3 depending on soil type and depth. This change is needed because changes in WAC 246-272A-0110 Table III removed the disinfection component of treatment levels, A, B and C.
- Add a requirement for sites with soil types 2-6 with soil depths of 24” to 36” to include timed dosing, which was previously only required for sites with shallower soil depths.
- Reduces required treatment levels and disinfection levels from Treatment Level B & DL2 to treatment Level C & DL3 for soil types 2-6 for sites with soil depths that range from 18” or greater to less than 24.” A literature review revealed that soil should be given more credit for treatment.<sup>19</sup>

**Cost:** The department considers the amendments that clarify OSS must have a minimum design flow of 240 gallons for one single family residences. LHJs can allow an OSS to serve additional single-family residences and additional dwelling units with a minimum design capacity of 120 gallons for each additional bedroom. This as an example of a change that will have a small negligible administrative cost to locals to change forms and documents to reflect the new minimum capacity. Regarding the change to the definition from adjacent to 200 feet, the department interprets this more of a limitation of use rather than a direct cost to the property owner.

The department received responses from 24 professional engineers, 29 designers, and 22 installers on the reduced cost to change Treatment Level B (TLB) and Disinfection Level 2 (DL2) to Treatment Level C (TLC) and Disinfection Level 3 (DL3) as described in WAC 246-272A-0110 Table III, and the additional cost to add timed dosing to an OSS. SA Table 10 and SA Table 11 present the estimated costs. LHJs charge the same amount for recording documents (\$103.50 for first page and \$1 for each additional page). The authority to charge fees is in RCW 36.18.010.<sup>20</sup>

**SA Table 10. Estimated cost to adhere to design requirements, addition of timed dosing**

Description	Type of Professional	N	Range (\$)	Median (\$)	Mean (\$)	Standard Deviation (\$)
Average assumed unit cost to add timed dosing to	Engineer	24	0 - 3,600	195	657	952
	Designer	29	0 – 960	500	129	239

<sup>19</sup> Studies including Effect of soil depth and texture on fecal bacteria removal from septic effluents, A. D. Karathanasis, T. G. Mueller, B. Boone and Y. L. Thompson J (Water Health, 2006 Sep;4(3):395-404)

<sup>20</sup> [RCW 36.18.010: Auditor's fees. \(wa.gov\)](#)

an OSS design (including time and materials)	Installer	22	175 - 17,600	1,875	3,908	4,452
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**SA Table 11. Estimated cost to require one management arrangement for multiple additional dwellings served by a single OSS**

Description (responses)	N	Range (\$)	Median (\$)	Mean (\$)	Standard Deviation (\$)
Cost to require one management arrangement (recorded in contract) for multiple additional dwellings served by a single OSS	16	9 – 2,400	170	516	772

Replacing the phrase “not adjacent to” with “not within 200 feet would apply on a case-by-case basis where some LHOs may have interpreted this to be greater than 200 feet and others less than 200 feet.

**Benefit:** The proposed amendments will protect public health and surface water resources. They will also allow LHOs more flexibility and options when permitting multiple residential dwellings connected to a single OSS and reduce treatment requirements for certain soil types/depths. Specifically:

- Clarifying that the area where a resident owner of a single-family residence can be allowed to design their own OSS by changing the excluded area from “adjacent to” to “within 200 feet” adds needed specificity to the requirement. The proposed amendments benefit owners and LHOs by making the rule specific and easier to follow and enforce. Changing the term “adjacent to” to “within 200 feet” provides less need for interpretation and results in consistent application of standards. By matching the definition to that of “Shorelands” in chapter 90.58 RCW *Shoreline Management Act of 1971*, the requirement is connected to an appropriate conceptual and legal framework of shoreline management.
- Providing the LHO clear options and requirements for permitting multiple residences connected to a single OSS will allow owners to propose connecting accessory dwelling units and other residences to an OSS with the least requirements possible. The proposed amendments clarify that while residential OSS must be sized to treat sewage from no less than two bedrooms, additional residences connected to the OSS can be counted as the number of bedrooms they have (even if that is one). Setting clear requirements for OSS serving three or more dwellings to have a management agreement that identifies the OSS owner’s responsibilities to operate and maintain the OSS protects all users of the OSS, and public health generally, by ensuring that it is always clear whose responsibility it is to operate and maintain the OSS.

Changed Table VI Treatment Component Performance Levels and Method of Distribution to correspond with beneficial changes proposed in WAC 246-272A-0110, Table III.

- Adding a requirement for sites with soil types 2-6 with soil depths of 24” to 36” to include timed dosing (which was previously only required for sites with shallower soil depths) will protect public health and the owner. All OSS can benefit from timed dosing as the naturally occurring microorganisms in the system prefer a more regular delivery of organic material, which they use for food. In addition, time dosing allows the soil treatment system to rest and re-aerate between doses that are uniformly applied.<sup>21</sup> This results in more efficient treatment and may extend the usable life of the OSS.
- Reducing the required treatment levels and disinfection levels from Treatment Level B & DL2 to treatment Level C & DL3 for soil types 2-6 for sites with soil depths that range from 18” or greater to less than 24” is expected to result in a cost savings as described in SA Table 12. The department asked industry professionals to provide costs for both current rules and the proposed rules. Overall, the respondents indicated modest cost savings when changing from current to proposed rules. The department received survey responses from 23 engineers, 22 designers, and 11 installers and the estimated cost savings are in SA Table 12.

**SA Table 12. Cost comparison (potential cost savings) between existing and proposed rules (changing the required treatment level from B&DL2 to C&DL3)**

Description	N	Range of Cost (\$)	Median Cost (\$)	Mean Cost (\$)	Standard Deviation (\$)
<b>Engineer</b>					
Existing rules	23	30 - 16,500	1,200	2,493	3,792
Proposed rules	23	30 - 15,000	1,200	2,413	3,551
<b>Cost difference (potential savings)</b>			<b>0</b>	<b>79</b>	
<b>Designer</b>					
Existing rules	22	0 - 50,000	470	3,478	10,715
Proposed rules	22	0 - 50,000	425	3,406	10,743
<b>Cost difference (potential savings)</b>			<b>45</b>	<b>72</b>	
<b>Installer</b>					
Existing rules	10	1,950 -15,400	13,100	11,240	4,408
Proposed rules	9	575 - 14,000	12,250	8,683	2,076
<b>Cost difference (potential savings)</b>			<b>850</b>	<b>2,557</b>	

\* Average one-time initial cost to design a system with vertical separations 18-24", soil type 2, with Treatment Level C (TL-C) & DL3.

\*\*The reported range of costs (minimum and maximum) were identical for both current and proposed rules.

<sup>21</sup> Benefits of Time Dosing and Flow Equalization, Sara Heger, Ph. D (Onsite Installer Magazine, December 06, 2018).

### **WAC 246-272A-0232 Design Requirements-Septic tank sizing**

**Description:** This section identifies the design requirements for septic tanks, such as compartment configuration and minimum gallonage. The amendments remove an obsolete 900-gallon tank, which was previously allowed for a 3-bedroom design. The new minimum size for a tank for 4 or less bedrooms structures increase to 1,000-gallons.

**Cost:** The department surveyed LHJs and 14 of 19 responded that they already require one-thousand-gallon tanks.

The department surveyed tank manufacturers to determine how removing 900-gallon tanks would impact their business. Four tank manufacturers responded to the department's cost survey. Responses were as followed:

- One manufacturer responded that they currently sell 900-gallon tanks and indicated that they would still be able to sell their tanks for other purposes.
- No (0) tank manufacturers indicated they would incur costs due to the proposed rule.

In the survey no negative input on sizing was received.

**Benefit:** The benefit of the proposed amendments is that the industry will all use a consistent minimum sized tank for all homes with 4 or fewer bedrooms. Standardization and consistency of tank sizes is expected to moderate price increases in septic tanks and OSS design and installation. The septic tank provides the primary treatment for OSS, and in many cases the only treatment other than the soil. The septic tank stores and digests settled and floating organic solids in sludge and scum layers. Up to a 40% reduction of these layers can occur in the septic tank. A larger tank may allow less frequent pumping as result of more storage and therefore more settling and digestion. Therefore, for 2- or 3-bedroom homes, using a larger tank is overall beneficial and is expected to result in long-term cost savings for owners. Additionally, the 900-gallon tank is no longer commonly used in the industry.<sup>22</sup>

The department surveyed selected states in the region for their septic tank size requirements. Alaska, Montana, and Oregon all require 1,000-gallon tanks for up to 4 bedrooms. Idaho allows a 900-gallon tank for 1-2 bedrooms.

### **NEW SECTION**

#### **WAC 246-272A-0233 Design Requirements-Pump chambers**

**Description:** This is a new section that establishes 1,000 gallons as the minimum size of pump chambers. There is no minimum size of pump chambers in current rules. Design requirements proposed in rule are currently included in the Pressure Distribution RS&G that were based on estimated waste generation, full time pump submergence, safety for sludge accumulation below pump inlet, and ensuring emergency storage volume comprises at least 75% of the design flow. When these factors are taken into consideration, it becomes evident that 1,000

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<sup>22</sup> [Septic Tank Size Requirements Septic tank size calculations, size tables & codes \(inspectapedia.com\)](https://inspectapedia.com/septic/septic_tank_size_requirements.php)



gallons is the minimum volume needed for a residential structure<sup>23</sup>. Eight out of 19 (42 %) of LHJs already require 1000 gallons minimum pump chamber size and no negative input on sizing was received.

**Cost:** The department surveyed the two manufacturers that sell tanks smaller than 1,000 gallons. One indicated they would not be able to sell their inventory but did not provide an estimated cost of inventory that they would be unable to sell.

The department assumes that manufacturers will have time to manage their inventory when the new tank sizes take effect.

**Benefit:** The benefit of the proposed amendments is that standardized pump chamber tanks will make manufacturing, designing, installing, and regulating pump chamber tanks for OSS more efficient by reducing variables in the respective processes. A pump tank functions much like a septic tank, adding additional treatment capacity. A larger pump tank may allow less frequent servicing as result of more storage and therefore more settling and digestion.

#### **WAC 246-272A-0234 Design requirements—Soil dispersal components**

**Description:** This section identifies the design requirements for soil dispersal component. This includes factors such as soil type, type of distribution (gravity, pressure, timed dosing), and drainfield siting. The proposed amendments add an option to use the new column B in Table VIII- Maximum Hydraulic Loading Rate. Column B requires a higher treatment level but also increases the gallon/square foot/day hydraulic loading of the soil. This allows the OSS to provide greater treatment and have a smaller drainfield. If this option is used, owners may not use any other reductions such as use of gravel less products. There are no amendments to the existing column A in the table, which is still an option for OSS to build their systems using these standards. The amendments allow LHOs to require reserve areas based on column A, or column B if a column B drainfield was initially approved. If they design using Column B in Table VIII the rule maintains that no further reduction using another dispersal component size reduction is allowed.

**Cost:** This new column B gives septic designers the option to increase the treatment level to increase the loading rate of a drainfield. This increase in treatment level and loading rate allows a smaller drainfield to be used. Greater treatment levels (going from treatment level E to C & DL3) results in reduced strength of the effluent (CBOD5, TSS, and Fecal coliforms) being introduced to the environment. There are different ways to improve treatment, including increasing the amount of sand in the drainfield (increase depth of sand from 1ft to 2ft) or adding an aerobic treatment unit or packed bed filter into the treatment train). These systems must also meet the DL3 treatment standard to qualify for the increase in discharge capacity per square foot. The designer chooses the type of treatment based on several factors which includes poorer soil types or site conditions (e.g., too steep of a drainfield). These potential

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<sup>23</sup> 3-bedroom OSS minimum design = 360 gallons per day. Per the Pressure Distribution RS&G, section 2.4, a pump chamber must have capacity for: daily design flow + 75% of design flow for reserve capacity + 18 inch depth to ensure the pump is submerged. Equals 360 gal/day + 270 gal + (18inches x 20 gal/in) = 990 gallon.

costs for septic designers that choose this option are analyzed in Section 5, WAC 246-272A-0280 Repair of failures, below.

**Benefit:** The proposed amendments add optional treatment options, which if selected, will reduce the strength of effluent. This reduces the potential impact to the soil in the drainfield. This allows owners to have smaller drainfields. This makes smaller size lots more buildable.

**WAC 246-272A-0238 Design requirements—Facilitate operation, monitoring and maintenance**

**Description:** This section includes the design requirement for facility operation, monitoring and maintenance. The proposed amendments to the section include:

- Requiring an observation port in each drainfield lateral. Historically, designers added one or more ports to an entire design, but not necessarily for each drainfield lateral (the number of lateral lines vary greatly, with an assumed average of 3 lines per OSS but could vary between 2 and 12).
- Requiring treatment units to have a freefall sampling port to collect samples. This is already required in the current Proprietary Onsite Wastewater Treatment Products Recommended Standards and Guidance Document<sup>24</sup> and allows sampling the proprietary product to determine its treatment efficiency.

**Cost:** The department received survey responses from 24 professional engineers, 29 designers, and 15 installers of the cost to add one observation port to a lateral line. Although this is a new requirement it was previously included in the department’s RS&Gs. The department received survey responses from 5 professional engineers, 16 designers, and 7 installers of the cost to add a freefall sampling port to a new OSS design/installation. SA Table 13 presents the unit costs of each.

**SA Table 13. Estimated cost to adding observations port and freefall sampling port.**

Description	Type of Professional	N	Range (\$)	Median (\$)	Mean (\$)	Standard Deviation (\$)
Unit cost to add one observation port for each lateral line	Engineer	24	0 - 3,600	195	657	952
	Designer	29	0 - 960	30	129	239
	Installer	15	22.50 - 250	80	95	63
Unit cost to add a freefall sampling port to a new OSS design/installation*	Engineer	5	37.50 - 200	125	115	66
	Designer	16	1 - 300	25	53	61
	Installer	7	100 - 575	300	326	148

\*Initial yes/no question removed respondents from answering subsequent cost questions which means no cost because they comply with the proposed rule.

<sup>24</sup> [Proprietary On-site Wastewater Treatment Products RS&G](#)

**Benefit:** The proposed amendments will protect public health and the owner’s property. Specifically:

- Requiring an observation port in each drainfield lateral will facilitate operation and maintenance inspections. When a drainfield stops (or slows) accepting effluent, is flooded, or is otherwise suspected of being impacted or damaged, observation ports allow inspection of the infiltrative surface of the drainfield (where the soil begins to treat the effluent). The only other way to inspect the drainfield is to dig beside or into it. This procedure is expensive, risks damaging the drainfield components, and disturbs the soil immediately next to the drainfield, which compromises the treatment capacity of this area of soil. This proposed amendment will allow more affordable, less intrusive, and safer inspection of the drainfield. This will allow more thorough routine inspections as well as speed and lower costs of inspections related to failures.
- Requiring treatment units to have a freefall sampling port to collect samples allows sampling the proprietary disinfection product to determine their treatment efficiency. Otherwise, this testing is usually impossible.

#### **WAC 246-272A-0250 Installation**

**Description:** This section establishes that only OSS installers may install OSS, except when the resident owner is allowed to install their own OSS. The section establishes how, when, and where OSS may be installed by a resident owner. The proposed amendments require that the primary and reserve drainfields must be at least 200 feet from a marine shoreline, at least 100 feet from surface water, and not meet the criteria of a Table IX repair if installed by a resident owner. The current language disallows installations by resident owners that are “adjacent” to a marine shoreline. This amendment parallels the restriction in WAC 246-272A-0230 for owners to design an OSS within 200 feet from a marine shoreline. The LHO may require a setback that exceeds 200 feet.

**Cost:** There are no anticipated compliance costs associated with the amendments but puts restrictions on the location to protect the environment and public health. Replacing the arbitrary language with a discreet distance will likely be a cost savings for designers, and installers.

**Benefit:** The proposed amendments make implementing this section more manageable. Changing the area excluded from owner installation from “adjacent to” to “within 200 feet” of marine water adds needed specificity to the requirement. The proposed amendments benefit owners and LHOs by making the rule specific and easier to follow and enforce. Changing the term “adjacent to” to “within 200 feet” provides less need for interpretation and results in consistent application of standards. A distinct distance will improve the ability of the LHO to implement the program. Replacing “adjacent” with an exact distance will help prospective owners, designers and installers implement the rule to protect marine environments.

#### **WAC 246-272A-0260 Inspection**

**Description:** This section establishes OSS inspection procedures and requirements. The proposed amendments:

- Define minimum comprehensive inspection requirements as including, at a minimum inspection and evaluation of:
  - a) The status of all sewage tanks including baffles, effluent filters, tank contents such as water level, scum, sludge, and solids, and water tightness, and general structural conditions;
    - The status of all lids, accesses, and risers;
    - The OSS and reserve area for any indicators of OSS failure or conditions that may impact system function, operation or repair; and
    - Any other components such as distribution boxes;
  - b) A review of the record drawing and related documents, if they exist, including previous reports to confirm the system is operating as designed; and
  - c) An evaluation of any proprietary products following the procedures of the accepted operations and maintenance manual associated with those products.
- Add a requirement that OSS owners must provide evidence of their OSS property transfer inspection on a form approved by the LHO.
- Grant LHOs the authority to require an additional inspection report, or additional information, for an inspection required under WAC 246-272A-0270(1).

**Cost:** The costs of the proposed amendments are nominal.

A standardized inspection procedure may cost more than an OSS evaluation, as the current rule requires. However, many service professionals currently conduct evaluations that meet the requirements of the proposed amendments and are unlikely to increase their prices for service based on the new requirements. Service professionals that conduct evaluations that do not meet the requirements of the proposed amendments may be more affordable than those that conduct evaluations that do meet those requirements and they may need to increase their prices. This increase is expected to be marginal, since the requirements of the standardized inspection are not overly difficult or costly to learn or implement.

The requirement that OSS owners provide evidence of their property transfer inspection on a form approved by the LHO is expected to be a nominal cost.

Granting LHOs authority to require additional reports or information may cost more but is indeterminate since it is unknown what additional reports or information may be required by the LHO. Ten (10) LHJs noted no additional cost because the practice of performing an evaluation necessitates a thorough inspection and was already implemented by local codes.

**Benefit:** The proposed amendments will protect public health and the owner’s property by ensuring that inspections are conducted according to minimum standards and that LHOs have relevant information on the status of property transfer inspections of OSS. Specifically by:

- Defining minimum comprehensive inspection requirements, the amendments will ensure that owners can have confidence that an inspection of their OSS is conducted to a minimum standard and provides the necessary information in a standardized, easy to understand format. This will improve the quality of inspections in general, which will in

turn help ensure that OSS are operating more safely and efficiently, and that OSS malfunctions and failures are detected earlier, minimizing the threat to public health and the cost to the owner. Often, a minor malfunction will evolve into a major failure if left unaddressed.

- Requiring that OSS owners provide evidence of their property transfer inspection to the LHO the amendments will help LHOs collect and track OSS inspection status, which is critical, requisite, information in modern OSS management. This information can be used to generate statistics and maps that can direct educational, enforcement, and funding campaigns.
- Allowing LHOs to require additional reports and information, the amendments provide LHOs the latitude to implement the program to meet the local needs. There may be related issues or programs that are important locally and need to be tracked along with property transfer inspection reports.

### **WAC 246-272A-0270 Operation, monitoring, and maintenance—Owner responsibilities**

**Description:** This section describes what owners must do for operating, monitoring, maintaining, and inspecting their OSS to minimize the risk of failure and threat to public health. This section requires owners to notify LHO if their OSS fails, work with local health officers for technical assistance, obtain approval for repairs, secure permits, and establish routine inspection requirements (on one- or three-year intervals depending on type of OSS).

The proposed amendments to this section:

- Require owners to submit the results of inspections using an LHO-approved form to the LHJ.
- Require owners to obtain an inspection by a third-party inspector approved by the LHO at time of property transfer if the OSS is not in compliance with routine inspection requirements and was inspected by a third-party inspector authorized by the LHO.
- Allows the LHO to:
  - Waive the requirement for an inspection at the time of property transfer if the LHJ has evidence that the OSS is in compliance with the routine inspection requirements in WAC 246-272A-0270(1)(e) and was inspected by a third-party inspector authorized by the LHO;
  - Verify the results of the property inspection for compliance with WAC 246-272A-0260;
  - Add additional inspections and other requirements not listed in WAC 246-272A-0260; and
  - Require a compliance schedule for repair of a failure discovered during the property transfer inspection.<sup>25</sup>

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<sup>25</sup> Current rule provides this authority to the LHO through the following rules/RCW: [Current] WAC 246-272A-0015(15) Nothing in this chapter shall prohibit the adoption and enforcement of more stringent regulations by local health departments. [Current] WAC 246-272A-0200(8) The local health officer may stipulate additional requirements for a particular permit if necessary for public health protection. RCW 70.05 grants the LHO the authority to... "Take such action as is necessary to maintain health and sanitation supervision over the territory within his or her jurisdiction."

**Cost:** The proposed amendments could result in potential costs to owners under the following conditions.

- If the LHJ does not have evidence that the OSS is in compliance with the routine inspection requirement, the property owner will need to hire a service provider authorized by the LHO to conduct a property transfer inspection at time of property transfer. The LHO has the option to waive the property transfer inspection if the property is in compliance with routine inspection requirements and was inspected by a third-party inspector.<sup>26</sup>
- Hiring a service provider authorized by the LHO to conduct routine or property transfer inspections. Previously, the rule only required an “evaluation” of OSS. The definition of an evaluation was left up to the owner’s discretion. The amendment would require the owner to follow the inspection criteria for routine or property transfer inspections.<sup>27</sup>

If the property owner is in compliance with routine inspection requirements,<sup>28</sup> and the inspection was completed by a third-party inspector, there will likely be no additional costs. If the property needs an inspection realtors will be impacted by the proposed changes. This will add another facet to the work associated with selling a home. Specifically, they will have to determine if the property has a current inspection and if not, arrange to get one completed. This could add several hours of additional time to a transaction. The department assumes that LHJs will waive the third-party property transfer inspection.

The department received responses from 10 LHJs on the cost of an inspection and submittal of a copy of the report to the department. SA Table 14 shows the actual and estimated costs for LHJ to create a program to implement property transfer inspection (PTI) program.

**SA Table 14. Estimated costs for Property Transfer Inspections (PTIs)**

Description	N	Range (\$)	Median (\$)	Mean (\$)	Standard Deviation (\$)
<b>Local Health Jurisdictions</b>					
One-time cost estimate for LHJ to create a program to implement property transfer inspection (PTI) program (with an existing program)	6	300 - 120,000	11,105	30,193	41,161

<sup>26</sup> This requirement is found in WAC 246-272A-0270(1)(e). This has been a requirement since 7/1/2007 when the current version of the rule went into effect. [WAC 246-272A-0270](#):

<sup>27</sup> WAC 246-272A-0260(5)

<sup>28</sup> WAC 246-272A-0270(1)(e)

One-time cost estimate for LHJ to create a program to implement property transfer inspection (PTI) program (without an existing program)	9	700 - 1,786,600	65,605	398,757	665,410
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**Installers**

Unit-cost for installer to conduct PTI requirements and send form to LHJ <b>Low-end range**</b>	10	0-700	235	277	198
Unit-cost for installer to conduct PTI requirements and send form to LHJ <b>High-end range**</b>	10	0-700	350	337	213
Unit-cost for installers, to conduct PTI requirements and send form to LHJ <b>Average</b>	10	0-700	275	288	199

**Maintenance Service Providers**

Unit-cost service maintenance providers to conduct PTI and send form to LHJ <b>Low-end range*</b>	9	100-700	250	308	182
Unit-cost service maintenance providers to conduct PTI and send form to LHJ <b>High-end range*</b>	9	100-700	400	374	187
Unit-cost service maintenance providers to conduct PTI and send form to LHJ <b>Average</b>	9	100-700	300	320	183

\*\*Respondents were asked to provide a range of costs (rows are denoted in grey) and the department analyzed the low end of the range and the high end of the range to better understand the potential minimum cost and maximum cost to compliance.

The multiplier to the unit cost is unknown as the PTI is a new requirement and it is unknown how many PTI's will be conducted, processed, and filed. Therefore, the total cost is unknown. SA Table 15 provides the estimates costs.

**SA Table 15. Estimated costs for Maintenance Service Provider (MSP) inspection and inspection report.**

Description (responses)	N	Range (\$)	Median (\$)	Mean (\$)	Standard Deviation (\$)
Unit-cost to for MSP to complete an inspection <b>Low-end range*</b>	9	100 - 700	250	307	183
Unit-cost to for MSP to complete an inspection <b>High-end range*</b>	9	100 - 700	400	374	188
Unit-cost to for MSP to complete an inspection <b>Average</b>	9	100 - 700	300	320	182
Unit-cost for an MSP to submit an inspection report to the LHJ	10	0.50 - 428	41	122	156

\*Respondents were asked to provide a range of costs (rows are denoted in grey) and the department analyzed the low end of the range and the high end of the range to better understand the potential minimum cost and maximum cost to compliance.

**Benefit:** Establishing a property transfer inspection program represents an opportunity to check on the viability and operation of OSS before the transaction is complete. This keeps all parties informed and creates opportunity to address any OSS issues that ultimately protects the environment and people that use these systems. The provision establishing the notification requirement will help OSS owners and service providers understand their role in the inspection process.

The benefit of requiring an inspection of OSS by a third-party inspector at the time of property transfer is that, prior to the property transfer, the property seller, the potential property buyer, and the LHO will know that OSS has recently been inspected and will have access to information on the condition of the system. Because the LHO is expected to waive this requirement for OSS that are in compliance with routine inspections of OSS as required in WAC 246-272A-0270(1)(e), this may also increase compliance rates with this preexisting requirement.<sup>29</sup> This will create an easy process for home sellers to follow in order to establish compliance with local inspection requirements for home sales before they are ready to sell. It may also encourage owners to maintain compliance with routine inspection requirements throughout their ownership, so their home is a more competitive option on the real estate market.

As a result of the inspection, owners will be able to fix an OSS that poses a potential health risk before the sale. Buyers will be less likely to unknowingly purchase a property with a failed, malfunctioning, or unmaintained OSS. LHO's will gain critical information about failing and malfunctioning OSS and will ensure that these issues are corrected, and public health is

<sup>29</sup> This requirement is found in WAC 246-272A-0270(1)(e) This has been a requirement since 7/1/2007 when the current version of the rule went into effect. [WAC 246-272A-0270](#)



protected. The LHO may allow the OSS to be repaired on a compliance schedule, which may allow an owner to knowingly purchase a property with a failing OSS with the understanding they have to repair it by a certain date. This facilitates real estate transfers and protects buyers and public health by making the condition of the OSS known to all parties while negotiations can still occur.

Performing an inspection as described in WAC 246-272A-0260 will lead to more consistent/uniform approach to ensuring OSS performance/maintenance. This will benefit owners and the public because a minimum standard of performance will be expected when the services of a professional septic inspector are contracted. This will benefit local health departments for the same reason. It will also benefit OSS inspectors and the industry more broadly by leveling the playing field to a minimum standard. This prevents the undercutting of competent inspections that meet the industry standard with substandard inspections of questionable value.

### **WAC 246-272A-0278 Remediation**

**Description:** This is a new section that provides LHOs the option to establish a remediation policy, governing how and when remediation projects would be allowed. It also establishes specific exclusions for remediation.

Remediation is an attempt to restore a drainfield that has failed to functional, non-failure, status. There are an assortment of nonproprietary and proprietary biological, physical, and chemical technologies or processes to remediate and restore the flow of effluent into the soil below the infiltrative surface. The term remediation, and the related technologies and processes, are not mentioned in the current version of the rule. The department does not maintain a list of approved remediation products available for use. The department has issued an interim standards document on Remediation, which provides limited specific guidance to LHOs. This has led to vastly disparate approaches between LHOs, with some allowing remediation without a permit, some requiring a permit, and others disallowing it entirely. This has created uncertainty among owners and service providers. Service providers provided comment that many in the industry are frustrated with the regulatory uncertainty around remediation and requested that amendments are added to the rule to add clarity and direction to LHOs, owners, and service providers.

The proposed amendments:

- Allow the LHO to develop a policy reviewing and approving remediation.
- Establish the following exclusions for remediation activities:
  - Damaging the OSS;
  - Resulting in insufficient soil for treatment in the drainfield;
  - Disturbing the soil when there is not enough soil to meet standards in WAC 246-272A-0230.

Remediation is not always successful. When it is successful, the OSS is returned to a functioning state. It is unknown if a remediated OSS can be expected to fail prematurely or continue to function to its original design lifetime. When remediation is not successful, the OSS will still

need to be repaired or replaced. In this case, a repair or replacement of the OSS will be necessary.

**Cost:** Nine LHJs indicated that they allow homeowners to conduct remediation projects on failing or failed OSS. Seven LHJs indicated that they do not allow remediation projects. Two LHJs did not know if they allowed remediation projects. Of the nine LHJs that currently allow remediation projects only three have a policy in place. Of the remaining six, three LHJs that currently allow these projects provided a cost estimate to amend or adopt a new remediation project policy in accordance with the draft rule and are shown in SA Table 16.

**SA Table 16. Estimated cost of Remediation Policy**

Description	N	Range (\$)
Cost of Remediation Policy	3	404 - 1,275 - 8,253

**Benefit:** The benefit of the proposed amendments is that they add a lower cost option to repairs and replacement for owners of a failed OSS. The cost to remediate a drainfield, if successful, is significantly less than the cost to replace or repair the system. The long-term benefits of remediation are unknown because it is unknown if successful remediation is a short-term or long-term solution.

In counties where LHOs choose to establish a policy allowing remediation, OSS owners will have the option to try remediation instead of a repair. Remediation is not always successful. If it is successful, the OSS will not need to be repaired or replaced until it fails again. If it is not successful, the OSS will still need to be repaired or replaced.

### **WAC 246-272A-0280 Repair of failures**

**Description:** This section establishes requirements and options for owners when their OSS fails and procedures that LHOs are required to follow following an OSS failure. The proposed amendments to this section are:

- LHOs required to report OSS failures to the department if they are within 200 feet of a shellfish growing area.
- LHO required to evaluate all unpermitted sewage discharges to determine if they pose a public health threat. If determined to be a public health threat the LHO shall require a compliance schedule. Owners may face costs, penalties, or both, associated with compliance schedule deficiencies.
- Designer must minimize the impact of phosphorus discharge in the OSS design when the LHO has identified it as a contaminant of concern in that area in the Local Management Plan.
- Changes to Table X in the proposed rule Treatment Component Performance Levels for Repair of OSS Not Meeting Vertical and Horizontal Separations
  - Incorporated changes to treatment levels resulting from proposed amendments in WAC 246-272A-0110 (DL1, DL2, DL3).

- Increased the minimum horizontal separation required between the soil dispersal unit (e.g., drainfield) and a well, spring, or surface water by 5 feet from 25 feet to 30 feet for repairs. Increased treatment and disinfection levels for specific soil types and vertical separations – a total of 6 situations (See SA Table 17).
- Allow an OSS repair using the least expensive alternative that meets standards and is likely to provide comparable or better long-term sewage treatment and effluent dispersal outcomes.<sup>30</sup>
- Allow an OSS repair using Table X in the proposed rule only if installation of a conforming OSS or component/connection to either an approved LOSS or a public sewer is not possible when no reasonable alternatives exist.
- Change in requirement to abandon property if no repair of failed OSS is possible to cease using the OSS and generating sewage. This allows the owner access and use of their property.

**Exempted from the SA:** Requirement for LHO to not impose or allow the imposition of more stringent performance requirements of equivalent OSS on private entities than public entities under 34.05.328(5)(b)(v).<sup>31</sup>

**Cost:** The department conducted a survey and received responses from 11 LHOs, 3 installers, 21 designers, and 19 engineers on the costs imposed by the amendments to this section. SA Table 17 presents the estimated costs.

**SA Table 17. Estimated costs associated with WAC 246-272A-0280 Repair of failures reported in the department cost survey**

Description	Industry	N	Range (\$)	Median (\$)	Mean (\$)	Standard Deviation (\$)
<b>Local Health Jurisdiction</b>						
Cost to report a failure to the department for an OSS located within 200 feet of a shellfish growing area by phone or email	LHJ	11	12.50-150	43	53	42
Cost per site to determine if an unpermitted sewage discharge poses a public health threat including travel	LHJ	4	158-216	184	185	25

<sup>30</sup> This provision is taken directly from RCW. In addition, the department reasonably assumes that local health jurisdictions are already following these directives.

<sup>31</sup> [RCW 34.05.328: Significant legislative rules, other selected rules. \(wa.gov\)](#) 34.05.328(5)(b)(v) (v) Rules the content of which is explicitly and specifically dictated by statute, including any rules of the department of revenue adopted under the authority of RCW 82.32.762(3)

Cost for a local health officer to create a compliance schedule.	LHJ	2	175-250	NA	NA	NA
Does your LHJ have certain areas in your jurisdiction where phosphorous is a contaminant of concern (or similar designation)?	Yes (4) No (20)					
Does your LHJ require designers to minimize the impact of phosphorus discharge in the OSS design when the LHO has identified as a contaminant of concern in that area in the Local Management Plan	Yes (2) No (2)					

**Designer / Engineer / Installer**

Unit cost to minimize the impact of phosphorus discharge in the OSS design when the LHO has identified as a contaminant of concern in the area and the LMP	<b>Designer</b>	15	40 – 4,800	100	539	1,204
Cost to change from Treatment Level B to Treatment Level A & DL1 with <12” vertical separation, 50’ to 100’ horizontal separation, and soil types 3-6.	<b>Engineer</b>	18	0 – 2,500	365	652	772
	<b>Designer</b>	21	0 – 4,800	50	619	1,255
	<b>Installer</b>	3		0, 0, 16,000		
Cost to change from Treatment Level C to Treatment Level B & DL2 with 18” to 24” vertical separation, 50’ to 100’ horizontal separation, and soil types 3-6.	<b>Engineer</b>	19	0 – 2,500	300	550	741
	<b>Designer</b>	21	0 – 7,200	32.50	674	1,691
	<b>Installer</b>	3		0, 5,259, 17,000		
Cost to change from Treatment Level C to	<b>Engineer</b>	19	0 – 2,500	300	550	741

Treatment Level B & DL2 with 24" to 36" vertical separation, 30' to 50' horizontal separation, and soil type 2.	<b>Designer</b>	21	0 – 4,800	32.50	562	1,251
	<b>Installer</b>	3		0, 4,209, 14,000		
Cost to change from Treatment Level C to Treatment Level B & DL2 with 24" to 36" vertical separation, 30' to 50' horizontal separation, and soil types 3-6.	<b>Engineer</b>	8	50 – 1,200	210	394	414
	<b>Designer</b>	21	0 – 4,800	32.50	562	1,251
	<b>Installer</b>	2		0, 18,000		
Cost to change from Treatment Level C to Treatment Level B & DL2 with 24" to 36" vertical separation, 50' to 100' horizontal separation, and soil type 2.	<b>Engineer</b>	2		300, 1,200		
	<b>Designer</b>	21	0 – 4,800	32.50	562	1,251
	<b>Installer</b>	2		0, 14,000		
Cost to change from Treatment Level E to Treatment Level C & DL3 with <36" vertical separation, 50' to 100' horizontal separation, and soil types 3-6. *	<b>Engineer</b>	2		0, 1,200		
	<b>Designer</b>	21	0 – 4,320	100	565	1,163
	<b>Installer</b>	1		0		

**Benefit:** The proposed rule provides better protection of public health and the waters of the State of Washington. Specifically:

- The requirement for the LHO to report any OSS failures that are within 200 feet of shellfish growing areas will protect public health by ensuring that shellfish are not harvested from that area until it has been verified to be safe.
- The requirement for the LHO to evaluate unpermitted sewage discharges<sup>32</sup> to determine if they are a public health threat and require a compliance schedule (for correction) if they are determined to be a threat will protect public health by ensuring that unpermitted OSS and other unpermitted discharges of sewage are investigated, evaluated, and corrected if public health is threatened by the discharge.
- The requirement for the designer to minimize the impact of phosphorus when the repair is located in an area where phosphorus has been identified as a contaminant of concern in the LHJ's local management plan will protect public health and Washington's

<sup>32</sup> "Unpermitted sewage discharge" means the discharge of sewage or treated effluent from an unknown OSS.

surface waters. Phosphorus contributes to harmful algal blooms (HABs), eutrophication, and degradation of the environmental quality of surface waters. Areas where phosphorus has been established as a contaminant of concern are susceptible to phosphorous contamination or are already impacted by phosphorous contamination. These areas require protection to ensure they are not significantly impacted by phosphorous contamination. Once an area or surface water body is impacted by phosphorous contamination it is very difficult, costly, and time-intensive to remediate the area or water body to pre-contamination quality. Prevention of phosphorus contamination is much less expensive and facilitates maintenance of environmental quality.

- The proposed changes to Table X in WAC 246-272A-280 are based on a review of the available literature on pathogen deactivation from horizontal migration through the soil. This review revealed no literature or other data sources regarding deactivation of pathogens by horizontal migration through the soil for any distances less than 30 feet. There was, therefore, no known scientific justification for allowing installation of a drainfield less than 30 feet from a well, spring, or surface water. A number of other setback distances were also found to not be supported by current scientific literature<sup>33</sup>. The minimum setback was changed to 30 feet and any other setbacks that were not support by literature were changed to agree with the scientific literature.
- The change to allow an OSS to be repaired using the least expensive alternative that is likely to provide comparable or better long-term sewage treatment and effluent dispersal outcomes, creates equity between conventional OSS, consisting solely of a septic tank and gravity drainfield, and all other OSS. This allowance is required for conventional OSS by statute. A repair that meets the requirements of the rule and is likely to provide comparable or better long-term sewage treatment and effluent dispersal outcomes protects public health by ensuring that repaired OSS treats sewage to safe levels.
- The change to clarify that OSS can only be repaired to the standards in the proposed Table X in WAC 246-272A-0280, if installation of a conforming OSS or a connection to an approved LOSS or a public sewer is not possible, protects public health by ensuring that LHOs do not permit new construction or OSS repairs under the proposed Table X standards that could be installed to meet conforming system requirements. Table X standards are not as protective of public health as new construction, or conforming OSS, standards and have been meant to be applied only as an exception when an OSS fails; and only when installation of a conforming OSS is not possible for its repair and no LOSS or public sewer is available to connect to. There is uncertainty among some LHOs that the current rule language is clear on this intent. This change clarifies the ORRC's and the Department's original intent.
- The change in requirement for the owner to abandon their property if no repair of a failed OSS is possible to instead cease using the OSS and generating sewage, which allows the owner access and use of their property.

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<sup>33</sup> [On-Site Rule Revision Issue –Proprietary Product Field Testing Table VI and Table IX \(wa.gov\)](#)

### **WAC 246-272A-0282 Minor repair of malfunctions**

**Description:** The new section establishes a framework for projects defined as minor repairs that bring an OSS back to a functioning state. Clarifies that owners are allowed to make repairs of certain OSS components (identified in the definition) without having to obtain a permit from an LHO, which although many LHOs do not typically issue permits for these types of projects they have the authority to do so in the permitting section of the rule. The new section also adds additional projects/components defined as minor repairs not needing permits.

**Cost:** Ten of 19 LHJs indicated they require owners to submit information about any minor repairs they complete. There are potential compliance costs imposed by the amendments as the department is authorizing LHO's to mandate that the OSS owner submit any information but is only providing it as an option for LHOs. Costs are presented in SA Table 18.

**SA Table 18. Cost to Local Health Jurisdictions for minor repairs**

Description	Yes	No	Don't know
LHJs already require OSS owners to obtain a permit or submit information about any minor repairs they complete.	10	8	0
<i>Of the LHJs that answered <b>no</b>, you DO NOT already require OSS owners to obtain a permit or submit information about any minor repairs they complete...</i>	10	8	0
LHJs who intend to require OSS owners to obtain a permit or submit information about any minor repairs, they complete.	No cost responses		
<i>Of the LHJs that answered <b>yes</b>, they intend to require OSS owners to obtain a permit or submit information about any minor repairs they complete...</i>			
Cost to OSS owners (from LHJs) to obtain a permit or submit information about any minor repairs they complete.	No cost responses		

**Benefit:** Allowing minor repair projects without having to get a permit will likely cause cost savings for OSS owners and make LHJs more efficient in their operations (reducing the number of project reviews would likely reduce review time).

### **WAC 246-272A-0290 Expansions**

**Description:** This section establishes requirements for OSS owners that want to expand their existing OSS. Proposed amendments to this section change when added requirements apply to an expansion of an OSS near marine shorelines. The existing language uses the word "adjacent to" to describe when these requirements apply. The proposed amendment changes "adjacent to" to "within 200 feet" of a marine area."<sup>34</sup>

**Cost:** The department does not anticipate any additional cost of compliance associated with the proposed amendments.

<sup>34</sup> This change matches a change describing when owners can design their own OSS in WAC 246-272A-0230.

**Benefit:** The proposed amendments benefit owners and LHOs by making the rule specific and easier to follow and enforce. Changing the term “adjacent to” to “within 200 feet” provides less need for interpretation and results in consistent application of standards.

### **WAC 246-272A-0300 Abandonment**

**Description:** This section amends requirements governing how OSS owners may abandon a sewage tank, seepage pit, cesspool, or other sewage containers. Owners have the option to remove tank/container or remove lid and fill the tank or container with sand or soil. The amendments add a requirement to grade the site to the surroundings, for both options.

**Cost:** Seven installers responded (7/7) to the department’s cost survey and indicated that that they already grade a site after removing a tank and no cost estimates provided. Therefore, the department does not anticipate any additional cost to comply with the proposed rules.

**Benefit:** An ungraded site creates a safety hazard. The benefit of the proposed amendments is that a properly graded site will protect the health and safety of people residing at or visiting the site by preventing falls and injuries.

### **WAC 246-272A-0320 Developments, subdivisions, and minimum land area requirements**

**Description:** This section establishes minimum land area requirements when proposing land developments or subdivisions. The proposed amendments:

1. Increase minimum lot size.
2. Reduce the maximum unit volume of sewage per day per acre from 3.5 to 3.35 for non-residential uses on lots served by public water supplies.
3. Establish minimum useable land area as a new requirement.
4. Update requirements for sub-sized lots.
5. Update miscellaneous provisions.

**The analysis of this section is divided into five parts to match the proposed amendments.**

#### **Part 1. Increasing minimum lot size.**

**Description of Part 1:** The amendments revise Table XI in the proposed rule to increase minimum lot sizes (ranges from 500-1,000 sq ft) based on soil type for each single-family residence or unit volume of sewage.

There is a need to require a minimum land area for OSS to ensure their safe long-term operation and treatment. Minimum lot size requirements have been included in Washington’s OSS rule since the first comprehensive statewide rule took effect in 1974. Originally, the primary purpose of the requirement was to ensure that there was enough land on the approved lot for all components of the OSS, including the reserve drainfield, to be installed without encroaching on horizontal setbacks to the home, property lines, and other site features.

Over time the scientific understanding of OSS wastewater treatment and the fate and transport of OSS contaminants developed, and a scientific and regulatory consensus emerged around two important points directly related to minimum lot sizes:



1. Historically, treatment requirements had been too lenient and treatment components had been too small to treat sewage effectively and reliably, particularly in certain soil types. Several studies and experiments expanded the understanding of how wastewater is treated in the soil, and in particular, how far pathogenic microbes and viruses can travel through soils. Well-draining sandy soils (e.g., Type 1 Soils) were found to allow pathogens to travel long distances while poor-draining clayey soils (e.g., Type 6 Soils) were found to treat pathogens well but require much larger drainfields to sustain long term treatment.
2. Nitrogen and phosphorus (together referred to as “nutrients” due to their role in plant growth) from OSS are dangerous contaminants in well water at higher concentrations and are detrimental to aquatic environments. It had long been understood that nutrients are not completely treated by OSS. However, the amount of nutrients released into the environment had historically been considered inconsequential because the health effects were not well understood and because free nutrients in terrestrial environments were thought to be used quickly by plants with little to no negative impacts.

Numerous recent studies and experiments, along with several well-documented cases of contamination of drinking water wells and surface waters have informed a consensus that inadequately functioning OSS can directly affect both human health and the environment.<sup>35</sup> Many cases of contamination were a result of premature OSS failures, while others were a result of OSS operating at a capacity that was too high for the treatment systems and receiving soils to treat. Others were a result of multiple OSS being installed too densely.<sup>36</sup> These failures and exceeded treatment capacities have been directly responsible for creating human health hazards. One known consequence of OSS failure is methemoglobinemia, commonly referred to as “blue baby syndrome.” This illness, which affects infants fed formula made with nitrogen-contaminated well water, has been linked to contamination from OSS.<sup>37</sup> Another known consequence of higher nutrient levels entering surface waters from various sources including OSS, are harmful algal blooms (HABs).<sup>38</sup>

To address these issues, three changes were made in subsequent rule revisions:

1. Treatment component requirements were increased to better match the scientific consensus. This led to generally larger and more sophisticated treatment components being installed.
2. Minimum lot size requirements were increased to accommodate larger OSS treatment components and to mitigate nutrients from OSS by providing enough soil to assimilate and dilute nutrients to safe levels before they reach groundwater or surface water. Notably, there was not agreement on the minimum land required to ensure that nutrients would always be safely mitigated. This is partially because the fate and

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<sup>35</sup> [Onsite Wastewater Treatment and Disposal Systems | US EPA, A Brief History of on-Site Wastewater Management | NC State Extension \(ncsu.edu\)](#)

<sup>36</sup> [Document Display | NEPIS | US EPA](#) Onsite Wastewater Treatment Systems Manual. Revised 2002.

<sup>37</sup> [PEHSU Nitrates Factsheet- Provider July 2014.doc \(washington.edu\)](#)

<sup>38</sup> [Harmful Algal Blooms | US EPA](#)

transport of nutrients is variable from site to site and is dependent on many specifics of OSS installation and use, land use, and hydrogeologic variables that are not collected as part of a standard OSS design. Hydrogeologists and other experts expressed concern that high-capacity OSS or densely installed OSS may cause significant nutrient contamination of groundwater resources under certain conditions. Environmental advocates expressed concern that HABS were a serious threat to aquatic environments, fisheries, and shellfish resources and that OSS should be installed so that their potential contributions are minimized. Development and property rights advocates expressed concerns over the impact to development costs. Through multiple rule revisions the determination of the appropriate minimum lot size requirements has been a compromise between the right to use land to its fullest development potential and a conservative estimate of the safety factors needed to protect groundwater and surface water resources.

3. A requirement to account for the quantity of sewage per acre (known as unit volume of sewage) in non-residential/commercial applications was added to the rule to ensure that nutrients were appropriately accounted for in non-residential and commercial applications.

The current version of the rule has been in effect since 2007, following the most recent rule revision in 2005. During that revision, the interested parties proposed to increase the minimum lot size to 21,780 sq ft for all soil types to protect water resources from nutrient contamination. This proposal was not approved by the Washington State Board of Health (board) due to concerns that the requirement would add an unneeded expense and could create unbuildable lots.<sup>39</sup> The rule requires a minimum acreage that is based on soil type and varies from 12,500 sq ft to 21,780.

Again, during the review of the rule in 2017, minimum lot size requirements were identified as an issue that needed to be considered for revision due to continued land development in Washington state. Since 2005, many areas in Washington have experienced significant growth of high-density communities served by OSS. Changes to land use on residential lots have also increased pressures on OSS treatment. While suburban lot sizes have gotten smaller,<sup>40</sup> the average size of single-family homes has generally increased.<sup>41,42,43,44,45</sup> Higher density development is required under many zoning and development regulations since it results in lower environmental impacts per person and affords an economy of scale for public services.

While beneficial in many ways, less land area per residential lot and higher rates of impervious surface coverage results in less available soil that can provide treatment of OSS effluent. This

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<sup>39</sup> [On-Site Rule Revision Issue: Minimum Land Area - WAC 246-272A-0320](#)

<sup>40</sup> [Lot Size Index by US States \(angi.com\)](#), [How American Homes Vary By the Year They Were Built \(census.gov\)](#)

<sup>41</sup> [\[STUDY\] Supersized: Americans Are Living in Bigger Houses With Fewer People | The Zebra](#)

<sup>42</sup> [What Is The Average Square Footage Of A House? | Rocket Mortgage](#)

<sup>43</sup> [Size of new single-family homes in the U.S. | Statista](#)

<sup>44</sup> [National housing and impervious surface scenarios for integrated climate impact assessments | NLCD 2016 Percent Developed Imperviousness \(CONUS\) | Multi-Resolution Land Characteristics \(MRL\)](#)

<sup>45</sup> [NLCD 2016 Percent Developed Imperviousness \(CONUS\) | Multi-Resolution Land Characteristics \(MRLC\) Consortium PNAS](#)

increases the potential that nutrients from OSS will not be adequately assimilated and diluted before they are transported into groundwater or surface water.

Climate change is expected to increase these pressures.<sup>46</sup> Summertime temperatures and the frequency of heavy precipitation events in Washington are both predicted to increase in the future. HABs form more readily at higher temperatures. And heavy rain events can rapidly flush nutrients through the soil and into groundwater and surface water.

While the understanding of the impacts of nutrients has developed significantly, there is still significant uncertainty that the rule’s minimum land requirements are protective of groundwater and surface water resources. The members of the ORRC considered several alternatives to address nutrient contamination.

Some members of the committee expressed concern that future development of the smallest lots allowed to be served by OSS is likely to cause nutrient contamination of water resources. Others asserted that no serious issues in Washington have been directly correlated to development that adheres to the standard minimum lot sizing (non-subsidized lots).

**Cost/impact of Part 1:** The ORRC agreed by consensus to recommend a modest increase in the minimum lot sizing of all soil types to add protections to counter growing threats to water resources.

The proposed increase ranges from 500 square feet to 1,000 square feet, depending on soil type.

The following table was developed to help explain the impact of the proposed lot size increases on potential subdivisions. It was developed by calculating the minimum acres needed to create subdivisions of between 1 – 10 lots under both the current and proposed minimum lot sizes by using the formula below. This allows us to show the acres needed for subdivisions under the current rule and compare that to the acres needed for the same subdivision under the proposed minimum lot size requirements.

The formula used to calculate the acres needed is:

$$\frac{(Number\ of\ Lots) \times (Lot\ Size)}{43,560\ ft}$$

While the formula has not changed, the proposed change in lot size leads to a difference in the acres needed for subdivisions.

There are no proposed changes to Soil Type 1.

**SA Table 19. Impact of proposed changes on lot sizes**

<b>Table comparing minimum size of subdividable lot needed by lots in subdivision with public water and soil type 2</b>
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<sup>46</sup> [On-Site Rule Revision Issue: Minimum Land Area - WAC 246-272A-0320](#)

Proposed Acres Required	Lots in subdivision	1	2	3	4	5	6	7	8	9	10	
	Current Acres Required	Minimum size of subdividable lot at current minimum lot size 12,500 sq ft (in acres)	0.29	0.57	0.86	1.15	1.43	1.72	2.01	2.30	2.58	2.87
	Required	Minimum size of subdividable lot at proposed 13,000 sq ft (in acres)	0.30	0.60	0.90	1.19	1.49	1.79	2.09	2.39	2.69	2.98

**Table comparing minimum size of subdividable lot needed by lots in subdivision with public water and soil type 3**

Proposed Acres Required	Lots in subdivision	1	2	3	4	5	6	7	8	9	10	
	Current Acres Required	Minimum size of subdividable lot at proposed 15,000 sq ft (in acres)	0.34	0.69	1.03	1.38	1.72	2.07	2.41	2.75	3.10	3.44
	Required	Minimum size of subdividable lot at proposed 16,000 sq ft (in acres)	0.37	0.73	1.10	1.47	1.84	2.20	2.57	2.94	3.31	3.67

**Table comparing minimum size of subdividable lot needed by lots in subdivision with public water and soil type 4**

Proposed Acres Required	Lots in subdivision	1	2	3	4	5	6	7	8	9	10
	Minimum size of subdividable lot at proposed 18,000 sq ft (in acres)	0.41	0.83	1.24	1.65	2.07	2.48	2.89	3.31	3.72	4.13
	Minimum size of subdividable lot at proposed 19,000 sq ft (in acres)	0.44	0.87	1.31	1.74	2.18	2.62	3.05	3.49	3.93	4.36

**Table comparing minimum size of subdividable lot needed by lots in subdivision with public water and soil type 5**

Proposed Acres Required	Lots in subdivision	1	2	3	4	5	6	7	8	9	10
	Minimum size of subdividable lot at proposed 20,000 sq ft (in acres)	0.46	0.92	1.38	1.84	2.30	2.75	3.21	3.67	4.13	4.59
	Minimum size of subdividable lot at proposed 21,000 sq ft (in acres)	0.48	0.96	1.45	1.93	2.41	2.89	3.37	3.86	4.34	4.82

**Table comparing minimum size of subdividable lot needed by lots in subdivision with public water and soil type 6**

Lots in subdivision	1	2	3	4	5	6	7	8	9	10
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Proposed Acres Required	Current Acres Required	Minimum size of subdividable lot at proposed 22,000 sq ft (in acres)	0.51	1.01	1.52	2.02	2.53	3.03	3.54	4.04	4.55	5.05
	Proposed Acres Required	Minimum size of subdividable lot at proposed 23,000 sq ft (in acres)	0.53	1.06	1.58	2.11	2.64	3.17	3.70	4.22	4.75	5.28

The tables show the modest impact of the proposed increase of minimum lot size to lots that can be subdivided. For example, for soil type 2, the change will require a landowner to have .30 of an acre to create a lot compared to the .29 acre (1/100 of an acre impact) and for a 10-lot subdivision the minimum size of a subdividable lot would be 11/100 of an acre larger.

**Benefit of Part 1:** The benefit of the proposed amendments is that they will protect public health and water resources. Specifically, by requiring larger minimum land areas for OSS, the amendments will ensure that there is more land to treat and dilute nutrients, which will help to prevent groundwater contamination by nutrients. Because these groundwater resources are drinking water sources, this will help prevent potential cases of methemoglobinemia, an acute and sometimes fatal illness affecting infants fed formula made with nitrogen-contaminated well water.<sup>47</sup> Studies have also shown a correlation between long-term ingestion of elevated nitrate and increased incidence of certain cancers, and increased birth defects.<sup>48</sup> Uncertainty exists in nitrate risk assessment, and the connections between the level of nitrate in drinking water, volume ingested, duration of exposure, and possible chronic risks are not fully understood.<sup>49,50</sup> Once groundwater has been contaminated with nutrients it is very difficult and expensive to treat to be safe to drink.<sup>51</sup>

Preventing nutrient contamination of surface waters protects important ecological resources such as aquatic environments, fisheries, shellfish resources, and recreational beaches. Eutrophication of surface waters is directly related to nutrient contamination<sup>52</sup> and Harmful Algal Blooms (HABs), which are dangerous to public health and can be deadly to wildlife and

<sup>47</sup> [Potential Well Water Contaminants and Their Impacts | US EPA](#)

<sup>48</sup>

<sup>49</sup> [Drinking Water Contaminant – Nitrate – Drinking Water and Human Health \(extension.org\)](#)

<sup>50</sup> [Drinking Water: Nitrate-Nitrogen \(unl.edu\)](#)

<sup>51</sup> [Nitrogen contamination and bioremediation in groundwater and the environment: A review - ScienceDirect](#)

<sup>52</sup> [Analysis of eutrophication potential of municipal wastewater - PubMed \(nih.gov\)](#)

pets and devastating to ecosystems, are fed by nutrient contamination, including from OSS.<sup>53</sup> Furthermore, remediation and rehabilitation of nutrient-contaminated surface waters is also very difficult and costly.<sup>54</sup>

Increased land area also improves the options for the owner if the OSS fails and major components need to be replaced. Even small increases in available land area can allow much more affordable repair options.

As the tables above show, the impacts of this change on development potential are minimal and in general do not result in a reduction of the number of possible lots for subdivisions under ten acres. The proposed increases in minimum land area will help protect important water resources from nutrient contamination from OSS.

**Part 2 Reduced the maximum unit volume of sewage per day per acre from 3.5 to 3.35 for non-residential uses on lots served by public water supplies.**

**Description of part 2:** The proposed amendment reduces the maximum unit volume of sewage per day per acre from 3.5 to 3.35 for non-residential uses on lots served by public water supplies. This results in a reduction of the maximum quantity of sewage that can be generated by non-residential uses on lots served by public water supplies from 1,575 gallons per day per acre to 1,508 gallons per day per acre. This is a reduction of 67 gallons per day per acre (a decrease of about 4%). This is described in detail below.

As defined in the rule, “Unit volume of sewage” means:

- a) Flow from a single-family residence;
- b) Flow from a mobile home site in a mobile home park; or
- c) Four hundred fifty gallons of sewage per day where the proposed development is not single-family residences or a mobile home park.

Under (c) of this definition, a unit volume of sewage is 450 gallons for non-residential uses. In the rule, the maximum unit volume of sewage describes the amount of sewage that can be generated per acre for non-residential uses on lots served by public water supplies and is calculated by dividing an acre by the smallest lot size for lots served by public water supplies. The smallest lot size was increased from 12,500 sq. ft. to 13,000 sq. ft., as described in part 1 of this section. The change of the maximum unit volume of sewage per day per acre from 3.5 to 3.35 for non-residential uses on lots served by public water supplies is therefore a consequence of changing the minimum lot size from 12,500 to 13,000.

**Cost/Impact of Part 2:**

To understand the costs, SA Table 20 and SA Table 21 outline the maximum unit volume of sewage per acre under the current and proposed rule.

**SA Table 20. Calculation of maximum unit volume of sewage per acre under current rule**

Current Rule
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<sup>53</sup> <https://www.cdc.gov/habs/index.html> Analysis of eutrophication potential of municipal wastewater - PubMed (nih.gov)

<sup>54</sup> <https://www.epa.gov/nutrient-policy-data/research-and-reports-nutrient-pollution>

Known Variables	Minimum Lot Size = <b>12,500</b> sq ft. 1 acre = 43,560 sq ft Unit Volume of Sewage = 450 Gallons of Sewage per Day
Maximum unit volumes of sewage per acre for non-residential uses on lots served by public water supplies	1 acre / Minimum Lot Size = Unit Volumes of Sewage per Acre  43,560 sq ft / 12,500 sq ft = 3.48 ≈ <b>3.5</b> Unit Volumes of Sewage per Acre
Unit volumes of sewage converted into gallons per acre	Unit Volumes of Sewage per Acre x Gallons of Sewage per Unit Volume of Sewage  3.5 Unit Volumes of Sewage per Acre x 450 gallons per day = <b>1,575</b> Gallons of Sewage per Day per Acre

**SA Table 21. Calculation of maximum unit volume of sewage per acre under proposed rule**

Proposed Rule	
Known Variables	Minimum Lot Size = <b>13,000</b> sq ft. 1 acre = 43,560 sq ft Unit Volume of Sewage = 450 Gallons of Sewage per Day
Maximum unit volumes of sewage per acre for non-residential uses on lots served by public water supplies	1 acre / Minimum Lot Size = Unit Volumes of Sewage per Acre  43,560 sq ft / 13,000 sq ft = 3.35 Unit Volumes of Sewage per Acre
Unit volumes of sewage converted into gallons per acre	Unit Volumes of Sewage per Acre x Gallons of Sewage per Unit Volume of Sewage  3.35 Unit Volumes of Sewage per Acre x 450 gallons per day = <b>1,508</b> Gallons of Sewage per Day per Acre

**Benefit of Part 2:** The benefit of the proposed amendment is the same as Part 1 above.

**Part 3 Establish minimum usable land area as a new requirement.**

**Description of Part 3:** The amendments revise Table XI in the proposed rule to include a requirement for new lots to include a minimum usable land area, which is defined as:

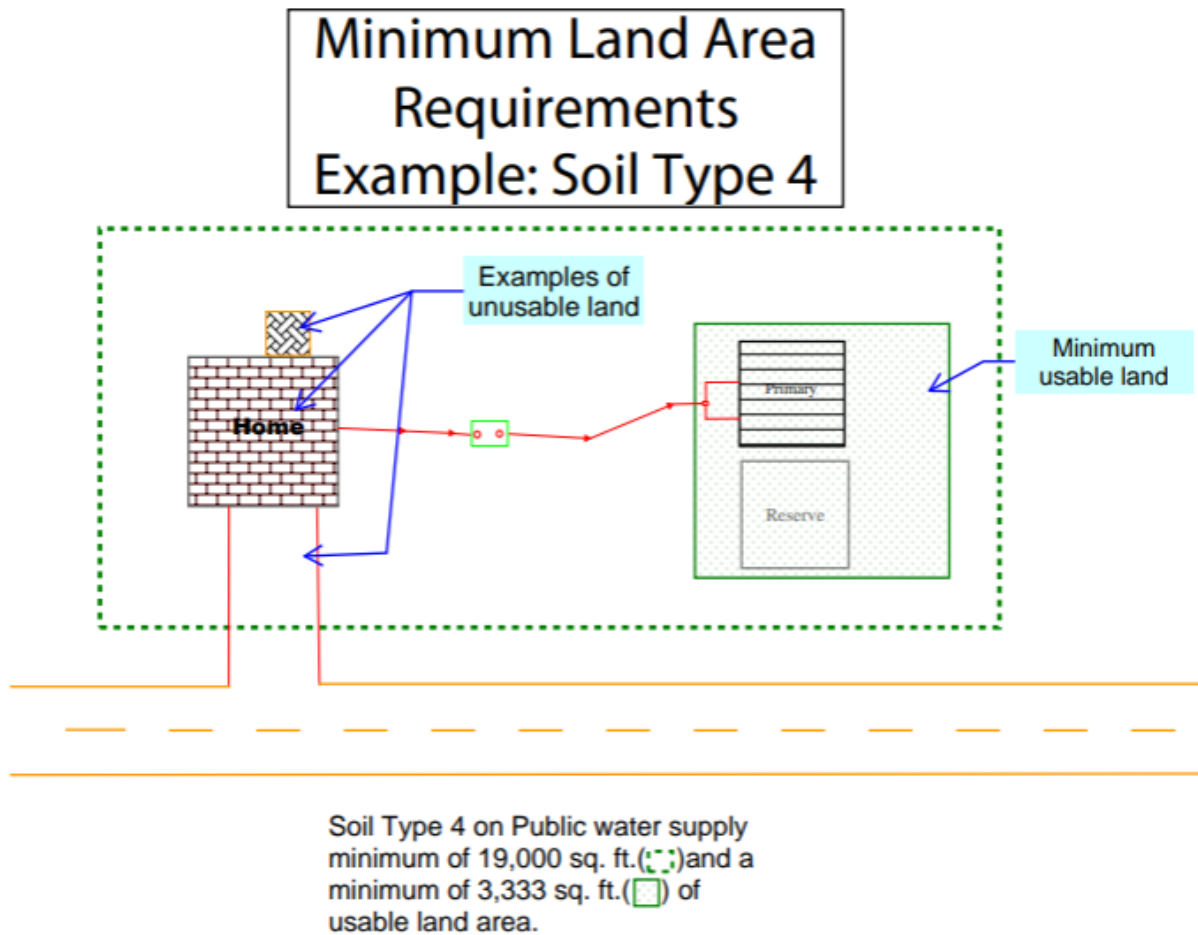
*"Minimum usable land area" means the minimum land area within the minimum lot size required per development using an OSS, which is based on soil type and type of water*



supply. Minimum usable land area is free of all physical restrictions and meet minimum vertical and horizontal separations.

The minimum lot size requirement requires each lot to be at least a certain size but does not require newly created lots to include a specific amount of land that is usable for an OSS. This can lead to new lots that are potentially undevelopable with OSS due to significant portions of the lot being under water, too steep, rocky, paved, impacted by easements, or otherwise unbuildable. SA Figure 1 demonstrates the impact of the minimum usable land area requirement.

**SA Figure 1. Minimum Land Area Requirements Example: Soil Type 4**



**Cost/Impact of Part 3:** The impact of the proposed amendment to the owner is a restriction on subdividing land proposed to be served by OSS into lots that do not have enough usable land to meet the minimum usable land area requirement. SA Table 22 details the impacts of the proposed amendment on Local Health Jurisdictions and designers.

**SA Table 22. Costs to Local Health Jurisdictions and Designers associated with proposed minimum usable land**

<b>Description</b>	The department asked Local Health Jurisdictions... Do you already use the draft definition of minimum usable land* as a requirement? <i>Answers are in the data row below.</i>				
<b>Findings from cost survey</b>	<b>Yes</b>	<b>No</b>	<b>Don't know</b>		
	13	5	0		
<b>Description</b>	Because you answered no, you DO NOT already use the draft definition of minimum useable land as a requirement...What is the cost of developing a policy/process that ensures that developments meet the minimum useable land areas? The findings are presented in the data row below.				
<b>Findings from cost survey</b>	<b>N</b>	<b>Range (\$)</b>	<b>Median (\$)</b>	<b>Mean (\$)</b>	<b>Standard Deviation (\$)</b>
	5	0 – 66,022	880	14,418	25,848
<b>Description</b>	The department asked Designers, what is the cost to incorporate the proposed minimum usable land requirement for one OSS design? <i>The findings are presented in the data row below.</i>				
<b>Findings from cost survey</b>	<b>N</b>	<b>Range (\$)</b>	<b>Median (\$)</b>	<b>Mean (\$)</b>	<b>Standard Deviation (\$)</b>
	Low end range*	22	0-16,000	88	759
High end range*	22	0-16,000	250	1,700	3,955

\*Respondents were asked to provide a range of costs (rows are denoted in grey) and the department analyzed the low end of the range and the high end of the range to better understand the potential minimum cost and maximum cost of compliance.

The cost to designers to incorporate the proposed minimum useable land requirement into an OSS design will likely be passed onto the consumer and will not be a cost to businesses.

**Benefit of Part 3:** The benefit of the proposed amendment is that it will protect public health, the environment, and the property owner. Specifically, the amendment, by requiring a minimum usable land area, will ensure that newly approved lots have suitable land to accommodate the installation and eventual repair of an OSS.

**Part 4 Updating requirements for sub-sized lots.**

**Description of Part 4:** The proposed amendments update the requirements for sub-sized lots. Specifically, the amendments:

- Remove reference to the rule’s current methodology for permitting OSS on sub-sized lots. This methodology is known as Method II

- Add Table XII to the rule language to determine lot sizes for lots which do not meet Table XI lot size requirements. These are known as sub-sized lots.
- Change the requirements for sub-sized lots of record (existing lots)

**The proposed amendments:**

Remove reference to Method II, the rule’s current methodology for permitting OSS on sub-sized lots. The current rule contains an allowance to use an alternative methodology, known as Method II, to determine minimum lot sizes for lots with OSS that are smaller than the typical minimum lot sizes. The rule requires that the project is justified through a written analysis of:

- (A) Soil type and depth;
- (B) Area drainage, and/or lot drainage;
- (C) Public health impact on ground and surface water quality;
- (D) Setbacks from property lines, water supplies, etc.;
- (E) Source of domestic water;
- (F) Topography, geology, and ground cover;
- (G) Climatic conditions;
- (H) Availability of public sewers;
- (I) Activity or land use, present, and anticipated;
- (J) Growth patterns;
- (K) Reserve areas for additional subsurface treatment and dispersal;
- (L) Anticipated sewage volume;
- (M) Compliance with current planning and zoning requirements;
- (N) Types of proposed systems or designs, including the use of systems designed for removal of nitrogen;
- (Q) Any other information required by the local health officer.
- (O) Existing encumbrances, such as those listed in WAC 246-272A-0200 (1)(c)(v) and 246-272A-0220 (2)(a)(vii); and
- (P) Estimated nitrogen loading from OSS effluent to existing ground and surface water;

This method was intended to serve development needs in planned unit developments, often within the boundaries of an urban growth area<sup>55</sup>.

The current rule also required the department to develop a guidance document to guide local permitting of lots approved under Method II by July 1, 2008. This guidance was meant to direct LHOs on how to account for the items on the list above, which represent the variability and macroscale impacts of OSS installation, land use, and hydrogeology that are not generally considered during routine OSS design.

The department did not develop the Method II guidance by the deadline set in the rule. Nonetheless, several LHJs began permitting subdivisions and OSS as Method II developments. Some LHJs developed local requirements to address nutrients and other concerns associated

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<sup>55</sup> [Chapter 36.70A RCW: GROWTH MANAGEMENT—PLANNING BY SELECTED COUNTIES AND CITIES \(wa.gov\)](https://www.wa.gov/legislation/Chapter-36-70A-RCW-GROWTH-MANAGEMENT-PLANNING-BY-SELECTED-COUNTIES-AND-CITIES)

with sub-sized lots. Others permit sub-sized lots based solely on the rule's requirement for written justification.

Method II developments generally result in significantly smaller lots than lots determined by Table XI in the proposed rule. Many Method II developments are high-density suburban neighborhoods that have significant potential to impact groundwater and surface water resources, particularly by nutrient contamination. The rule's current requirements, absent the required Method II guidance, are insufficient to protect groundwater and surface water resources from nutrient contamination.

As noted above, the current rule allows use of Method II to determine minimum lot sizes for lots smaller than the requirements in Table XI in the proposed rule. These lots are known as sub-sized lots.

Under the proposed amendments, the owner has the option to use Table XII in the proposed rule to determine minimum lot size for sub-sized lots. Table XII establishes a maximum amount of nitrogen (measured as Total Nitrogen) allowable from OSS per square foot of land, dependent on soil type. A lot must be at least large enough to accept the nitrogen from the OSS that will be installed on it. In other words, Table XII minimum lot sizes are determined based on nitrogen output from the OSS and the corresponding soil type. These sizes are based on the lot sizes in Table XI of the proposed rule, but can be reduced by installing additional treatment, as described below.

OSS are assumed to emit a certain amount of nitrogen, based on scientific literature<sup>56</sup>. This amount of nitrogen is expected for any OSS that does not include nitrogen treatment. However, lot sizes are allowed to be reduced if an approved nitrogen treatment device is added to the OSS. Nitrogen treatment devices are expected to treat 50% of the nitrogen in OSS effluent, so lots sizes are allowed to be reduced by up to 50% of Table XI sizes, if the OSS includes nitrogen treatment.

The amendments are based on the premise that lots sized in compliance with Table XI adequately protect groundwater and surface water resources. This allows OSS to be installed on lots that do not meet Table XI's requirements (sub-sized lots) while ensuring that groundwater and surface water are protected commensurate as it would be if the same OSS were installed on a lot that meets Table XI's requirements. Developers may choose to pay more for OSS which treat nitrogen in exchange for using less land area and get more lots from a subdivision.

A direct comparison between Table XII minimum lot sizes in the proposed rule and Method II minimum lot sizes in the current rule is not possible because Method II does not have an actual minimum lot size. Because Method II is generally used within urban growth areas to meet minimum development density requirements, the department analyzed the maximum densities allowed by Table XII. Notably, the maximum densities allowed via Table XII allows subdivisions and final lot sizes to meet most zoning requirements in urban growth areas. See tables below.

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<sup>56</sup> US EPA, Onsite Wastewater Treatment Systems Manual, Feb 2002

The department analyzed the maximum number of lots that a single acre, by each soil type, can be subdivided into using Table XII of the proposed amendments, assuming 50% denitrification via installation of a nitrogen treatment device and a public water supply (SA Table 23). The goal is a minimum of 5 lots per acre. All soil types can accommodate 5 lots per acre, if some or all lots are limited to 2 bedrooms.

**SA Table 23. Table XII (in the rule) Maximum Subdivision of Lots Per Acre by Soil Type**

Soil Type 1

<b>Soil Type 1</b>	
Acres	1
Maximum number of lots	5
Lot Sizes	8,712 sq ft
Bedrooms per lot	2
Denitrification factor	0.5

Or

<b>Soil Type 1</b>	
Acres	1
Maximum number of lots	3
Lot Sizes	14,520 sq ft
Bedrooms per lot	3
Denitrification factor	0.5

Soil Type 2

<b>Soil Type 2</b>	
Acres	1
Maximum number of lots	6
Lot Sizes	7,260 sq ft
Bedrooms per lot	3
Denitrification factor	0.5

Soil Type 3

<b>Soil Type 3</b>	
Acres	1
Maximum number of lots	5
Lot Sizes	8,712 sq ft

Bedrooms per lot	3
Denitrification factor	0.5

Soil Type 4

Soil Type 4	
Acres	1
Maximum number of lots	5
Lot Sizes	8,712 sq ft
Bedrooms per lot	2
Denitrification factor	0.5

Or

Soil Type 4	
Acres	1
Maximum number of lots	5
Lot Sizes	8,712 sq ft
Bedrooms per lot	Three 3-bedroom lots and Two 2-bedroom lots
Denitrification factor	0.5

Or

Soil Type 4	
Acres	1
Maximum number of lots	4
Lot Sizes	10,890 sq ft
Bedrooms per lot	3
Denitrification factor	0.5

Soil Type 5

Soil Type 5	
Acres	1
Maximum number of lots	5
Lot Sizes	8,712 sq ft
Bedrooms per lot	2
Denitrification factor	0.5

Or

<b>Soil Type 5</b>	
Acres	1
Maximum number of lots	5
Lot Sizes	8,712 sq ft
Bedrooms per lot	Two 3-bedroom lots and Three 2-bedroom lots
Denitrification factor	0.5

<b>Soil Type 5</b>	
Acres	1
Maximum number of lots	4
Lot Sizes	10,890 sq ft
Bedrooms per lot	3
Denitrification factor	0.5

Soil Type 6

<b>Soil Type 6</b>	
Acres	1
Maximum number of lots	5
Lot Sizes	8,712 sq ft
Bedrooms per lot	2
Denitrification factor	0.5

Or

<b>Soil Type 6</b>	
Acres	1
Maximum number of lots	3
Lot Sizes	14,520 sq ft
Bedrooms per lot	Two 3-bedroom lots and Three 2-bedroom lots
Denitrification factor	0.5

### Change the requirements for sub-sized lots of record (existing lots)

The current rule allows development on lots of record (lots which predate the rule's requirements) that do not meet minimum lot size requirements if the proposed OSS will meet all requirements of the current rule other than minimum lot size. LHJs have issued waivers to allow OSS installation on these lots when the rule's requirements cannot be met. In November 2008, the Supreme Court of Washington ruled in *Griffin v Thurston* that permit applications to install an OSS on a lot that does not meet the minimum lot size requirements of the rule may not be granted waivers from the rule's requirements.<sup>57</sup> Specifically, the court ruled that an OSS permit application can meet all requirements under WAC 246-272A-0320(5)(e)(iii) if the application qualifies for alternative methods or standards that are embedded in the applicable rule but, cannot rely on the general waiver provision found in WAC 246-272A-0420. This ruling has prevented installation of OSS on many preexisting sub-sized lots because the OSS would require a waiver from one or more of the rule's requirements.

Waivers are required to be consistent with the standards and intent of the rule and are expected to be protective of public health. There are no waivers for deviation from minimum lot size because there are no mitigating measures that can be taken. Therefore, sub-sized lots with an OSS permitted using a waiver are a concern due to their potential impact (particularly due to nutrients) to nearby groundwater and surface waters.

During the review of the rule in 2017, interested parties rated updating the lot sizing method for sub-sized lots as a high priority. During rule revision, several interested parties expressed concern that continued development of sub-sized lots served by OSS without adequately considering nutrients is very likely to result in preventable nutrient contamination of groundwater and surface water resources. LHJs expressed that there is often local pressure to allow development at the highest densities permitted by rule. Interested parties agreed the rule should clearly explain the requirements for development of sub-sized lots served by OSS, that the requirements should protect groundwater and surface water resources, while also being as permissive of sub-sized lots as safely possible.

**Cost/Impact of Part 4:** The department asked LHJs in the cost survey if they allow developments (the division of lots) smaller than the minimum land requirements (using the current rule's Method II) and responses are presented in SA Table 24.

**SA Table 24. Local Health Jurisdictions that currently allow developments on smaller than the minimum land requirements (using the current rule's Method II)**

Description	Yes	No	Don't know
LHJ currently allows developments (the division of lots) smaller than the minimum land requirements in Table XI (using current rule Method II) *	8	9	1

\* This does not apply to development of existing legal lots. DRAFT rule Table XI.

<sup>57</sup> [Griffin v. Thurston County :: 2008 :: Washington Supreme Court Decisions :: Washington Case Law :: Washington Law :: US Law :: Justia](#)



In jurisdictions where the LHJ allows the development of lots using Method II, the proposed amendments will prevent future land subdivisions using Method II. Future subdivisions will be required to meet the requirements of either Table XI or Table XII as outlined in the proposed rule.

The department asked OSS designers to estimate the additional cost to add nitrogen treatment to an OSS to allow it to meet the nitrogen treatment requirements in Table XII of the proposed rule. Results are presented in SA Table 25.

**SA Table 25. Designers estimated cost to design and add a device for nitrogen treatment**

Description	N	Range (\$)	Median (\$)	Mean (\$)	Standard Deviation (\$)
Incremental/additional cost for an OSS for a Design with treatment level N <b>Low-end range*</b>	23	0 – 2,400	150	288	489
Incremental/additional cost for an OSS for a Design with treatment level N <b>High-end range*</b>	23	0 - 4,800	400	614	949
Incremental/additional cost for a device for an OSS with treatment level N <b>Low-end range*</b>	22	0 - 80,000	200	3,029	12,733
Incremental/additional cost for a device for an OSS with treatment level N <b>High-end range*</b>	22	0 - 80,000	550	4,276	16,941
<b>Design + Device Low-end range**</b>		<b>0 - 82,400</b>	<b>350</b>	<b>3,317</b>	
<b>Design + Device High-end range**</b>		<b>0 - 84,800</b>	<b>950</b>	<b>4,890</b>	

\*Respondents were asked to provide a range of costs (rows are denoted in grey) and the department analyzed the low end and high end of the range to better understand the potential minimum cost and maximum cost of compliance.

\*\*Design + Device Low-end and High-end ranges are the addition of the lowest range and highest range survey responses from the first four data rows (denoted in grey). These were summed because you would need both the design and the device for a total cost to add nitrogen treatment.

In the cost survey the department asked manufacturers if they currently offer a device that is registered to meet treatment level N; 2 manufacturers answered yes, 2 answered no. One manufacturer indicated that they do plan in the future to add treatment level N to their product and estimated the cost of the unit between \$5,000 and \$8,000.

**Benefit of Part 4:** The benefit of the proposed amendments is that they will protect public health, water quality, and the owner's property. They will provide a much safer, more responsible path for developing new sub-sized lots. They will also allow for installing OSS on sub-sized lots of record that require a waiver, which is currently not permitted. Specifically,

- Changing the method of permitting sub-sized lots from relying on a written justification of a list of important variables (Method II) to establishing a maximum amount of nitrogen that can be allowed per land area (Table XII) in the proposed rule, while also considering those important variables, will ensure that water resources are protected from nitrogen contamination. The amendments allow OSS to be installed on lots that do not meet Table XI's requirements (sub-sized lots) while ensuring that groundwater and surface is protected commensurate as it would be if that OSS were installed on a lot that meets Table XI's requirements (was not sub-sized). Using this methodology, new developments can be designed with lots as small as half the size of Table XI's minimum lot sizes by installing nitrogen treatment technology that takes the place of the land area that is otherwise used to treat and dilute nitrogen. Developers may choose to pay more for OSS which treat nitrogen in order to use less land area and get more lots from a subdivision. The rule's current requirements, absent the required guidance on how to implement Method II, result in inconsistent interpretation and implementation of the rule and are insufficient to protect groundwater and surface water resources from nutrient contamination. The proposed amendment allows continued development of new sub-sized lots while requiring the development to protect water resources from nitrogen contamination.
- The addition of Table XII to the proposed rule also allows sub-sized lots of record, which are currently not eligible for an OSS permit due to the Griffin v Thurston Supreme Court decision, to potentially be eligible for an OSS permit. This is because Table XII is an alternative method of determining the minimum lot size which is *embedded in the rule*. In the Griffin v Thurston case, the Washington Supreme Court ruled that waivers cannot be granted for OSS permits where the lot does not meet a minimum lot size determination methodology *embedded in the rule*.

The Table XII lot sizing will not allow every lot of record to be permissible for an OSS (because some are too small or have issues for which there is no suitable waiver) but it will allow many hundreds or thousands to be permissible with an OSS that currently are not.

#### **Part 5 Update miscellaneous provisions**

**Description:** The following proposed amendments update miscellaneous provisions. Specifically, the amendments:

- Remove the allowance to include road areas “up to the centerline of the road” for determining lot size in subdivisions that do not meet the minimum land area requirements in Table X of the proposed rule. Road areas require compacted soil, and are often paved, and do not provide adequate treatment of OSS effluent, including nutrients. Management and treatment of nutrients is critical to determination of lot sizes and treatment requirements for sub-sized lots.
- Allow recording a restrictive covenant to allow water protection zones for individual wells on new subdivisions to cross lot lines.

**Cost/Impact of Part 5:** New sub-sized lots (created through subdivisions) will be required to meet the requirements of Table XI without including areas that are roads or are planned to be roads. The department interprets this more of a limitation of use rather than a direct cost to the property owner. The cost of this revision is indeterminate and will likely be nominal.

The LHJs were asked if they currently include up to the centerline of the road for subdivisions that do not meet the minimum land area requirements in SA Table 26.

**SA Table 26. Local Health Jurisdictions that currently include up to the centerline of the road for subdivisions that do not meet the minimum land requirements in rule**

Description	N	Yes	No	Don't know
LHJ currently includes up to the centerline of the road for subdivisions that do not meet the minimum land area requirements in Table X	18	4	12	2

\* This does not apply to development of existing legal lots. Refer to rule, DRAFT rule Table XI.

**Benefit of Part 5:** The benefit of the proposed amendments is that they will protect public health and water quality and allow owners to record a restrictive covenant to protect water protection zones that cross lot lines. Specifically:

- Precluding road areas from being included in lot size determinations to meet minimum lot size requirements protects public health and the environment because paved and compacted road areas are unsuitable for OSS effluent treatment; and
- Allowing the owner to record a restrictive covenant to allow water protection zones for individual wells on new subdivisions to cross lot lines will allow the owner of multiple lots to ensure that drinking water protection zones that cross lot lines can be protected with a restrictive covenant.

**WAC 246-272A-0340 Approval of installers, pumpers, and maintenance service providers**

**Description:** This section requires installers and pumpers to get approved by the LHO before they could provide services. The existing rule gives LHOs the option to approve maintenance service providers. The proposed amendments change the term “certified” to “approved” in the section title and requires LHOs to approve maintenance service providers before they can offer services. This change is needed to complete property transfer inspections. The amendments

add an option for LHOs to approve OSS installers, pumpers, and maintenance service providers through reciprocity by other LHO approvals. The amendments also allow LHOs to establish an OSS owner inspection certification program where they get trained to be able to inspect their own OSS.

**Cost:** The department received responses from 11 LHJs on the cost to establish a maintenance service and OSS owner inspection program. SA Table 27 shows the estimated costs. The department assumes that over time the LHJs will establish a fee for service that the maintenance service providers will eventually pay.

**SA Table 27. Estimated cost to Local Health Jurisdictions to establish an Owner Inspection Program**

Description	N	Range (\$)	Median (\$)	Mean (\$)	Standard Deviation (\$)
<b>Local Health Jurisdiction</b>					
One-time cost to establish an existing maintenance service provider approval program	11	300 - 1,500,000	18,000	182,560	44,126
Annual cost to offer an existing maintenance service provider approval program	11	250 - 207,667	12,000	36,656	61,125
One-time cost to establish an OSS owner inspection program	3	21,460 48,717 53,200	NA	NA	NA
Annual cost to offer an OSS owner inspection program	2	40,050 99,900	NA	NA	NA

**Benefit:** Once approved, the maintenance service providers may, if allowed by LHO, also perform the property transfer inspections providing a broader more competitive base of potential approved inspection providers. The amendments will increase competition, increase public confidence in the program as it is implemented, and improve efficiency and level of standard for professions that work on OSS.

**WAC 246-272A-0400 Technical advisory group (TAG)**

**Description:** This section directs how the department will maintain and use a technical advisory group (TAG). The amendments change the title from “committee” to “group” and add a 3-year term length for serving on the TAG (previously the term length was not identified). The amendments add two new specific member categories to the TAG, (maintenance service providers and certified professional soil scientists) that were already attending and participating in the group and remove an allowance that the department have a representative to the TAG. The amendments also strike language allowing the department to convene the TAG, since this is implied in the section’s language directing the department to maintain the TAG.

**Cost:** The department does not anticipate any additional compliance costs associated with the proposed amendments.

**Benefit:** The proposed amendments formalize participating members of the TAG. The three-year term clarifies the duration of time commitment when joining the TAG.

#### **WAC 246-272A-0410 Policy advisory group**

**Description:** This section directs how the department will maintain and use a policy advisory group (PAG). The amendments change the title from “committee” to “group” and adds a 3-year term length for serving on the PAG (previously the term length was not identified). The amendments strike language allowing the department to convene the PAG, since this is implied in the section’s language directing the department to maintain the PAG. The amendments also remove an allowance that the department have a representative to the PAG.

**Cost:** The department does not anticipate any additional compliance costs associated with the proposed amendments.

**Benefit:** The proposed amendments add a three-year term which clarifies the duration of time commitment when joining the PAG.

### ***Determination***

#### **Probable Benefits greater than Probable Costs**

The rulemaking intends to improve public health protection, streamline regulations, provide clarity, and improve consistency between state and local regulations. As described in this analysis, there are selected sections that could result in increased costs for select OSS owners (e.g., property transfer inspection), LHOs (e.g., establishing local management plan), designers (e.g., add new components to site maps) and installers (e.g., add observation port in each lateral) although the department assumes these costs to designers and installers will ultimately be paid by clients (OSS owners). The proposed rule enhances public health protection by preventing untreated sewage from entering the environment and by enhancing the focus of local OSS programs on proactively preventing issues with OSS rather than responding to issues. Although parties may incur certain costs, the benefit of improving the effectiveness, operation, and performance of OSS, which protect and improve public health, outweigh these costs.

Based on this analysis, the department concludes that the total probable benefits of the proposed rule exceed the total probable costs.

## SECTION 6

**List of alternative versions of the rule that were considered including the reason why the proposed rule is the least burdensome alternative for those that are required to comply and that will achieve the goals and objectives of the proposed rule.**

The list below represents draft revisions the department considered but ultimately elected to propose less burdensome alternative language after determining the change would still achieve the general goals and specific objective of the authorizing statute:

- [WAC 246-272A-0015] The ORRC proposed that non-Puget Sound LHJs develop LMPs with similar requirements to the Puget Sound LHJs. Environmental Health Directors expressed concern that the non-Puget Sound LHJs did not have adequate resources to develop LMPs at that scale. Many non-Puget Sound LHJs have not satisfied existing rule requirements to develop LMPs with a more limited scope. In response, the department revised the proposed rule to leave the LMP requirements for non-Puget Sound LHJs largely unchanged. The department will invest resources in training LHJ staff in LMP development, including help securing funding for this work.
- [WAC 246-272A-0025] The proposed amendments clarify how the distance to sewer is measured in cases where a failed OSS must be connected to sewer, protecting owners from paying high sewer connection costs due to a requirement to connect from long distances.

The current rule language requires that the owner connect their property to sewer in the case of a failed OSS, if a conforming OSS cannot be installed, and the distance “between the residence or other facility and an adequate public sewer is two hundred feet or less as measured along the usual or most feasible route of access”. Several LHJ’s have required sewer connection in cases where the sewer line was within 200 feet of the property line but was much further to the actual point of connection.

This has created a costly and disproportionate effect of this provision of the rule. LHJ’s, in collaboration with other local regulators, determine if owners should be required to connect to sewer based on the distance from the edge of their property to the sewer line. The owners are, however, required to pay the actual per foot connection costs, which are often based on distances much greater than 200 feet. Moreover, many sewer districts require the property owner to pay for the sewer line to be installed across the frontage of their property, to extend the sewer line to the next property. The cost associated with this depends on the distance of frontage.

When the ORRC considered revisions to this section there was extensive discussion among the committee members about the proper balance between equity of application of the rule and the effort to connect permitted OSS, pre-permit OSS (installed prior to 1974), and unpermitted OSS to sewers. Some committee members supported retaining the current wording of the rule so that sewer districts can require sewer connection in more cases. Most committee members opted to propose a less burdensome revision to the rule. The proposed amendments revise the method of

measurement to determine if the property is subject to the sewer connection requirement to begin approximately where the building drain exits the building (where the building drain and the sewer line connect) instead of the edge of the property. This will reduce the disproportionate burden on owners and limit the requirement to properties that are more adjacent to sewer lines.

- [WAC 246-272A-0120] The ORRC proposed that the department develop a requirement that proprietary treatment products are field verified as a part of the product registration process. Currently, proprietary treatment products are tested at testing facilities to determine what level of treatment they provide. Few have undergone field testing to determine their efficacy under actual use conditions. This has been identified as a concern during the last two rule revisions.

The department collaborated with a committee of product manufacturers and LHJ staff to develop this requirement. The department initially proposed to this committee that all newly installed proprietary treatment products would be tested during their first two years of service. This would have entailed collecting effluent samples during the service visits (about 4) that normally happen during the first two years and having those analyzed for a limited number of regulatory analytes.

There was robust debate among the committee members on the benefits versus the costs of the proposal. Several counterproposals were provided. Some manufacturers argued that field verification had limited merit. Others argued that field verification was needed. And others argued that operational analytes should also be collected.

The committee worked to balance cost and burden to manufacturers against the benefit of the potential information gained on the actual operational performance of proprietary treatment products. The final proposed requirement requires all existing and new proprietary treatment products to undergo field verification that includes sampling twenty-five separate installations and having the samples analyzed for E. coli or fecal coliform, to determine the bacterial reduction treatment provided by the proprietary treatment product. This is a much more limited requirement and will be less costly and burdensome to manufacturers.

- [WAC 246-272-0270] The ORRC proposed that all OSS must be inspected at the time of property transfer. LHJ representatives expressed concern to the department that this requirement would be difficult to implement, particularly for smaller LHJs with less resources. They also argued that it would be easier to implement and fairer to owners if this requirement could be waived for OSS that are in compliance with routine inspection requirements found in WAC 246-272A-0270. The department agreed and made two revisions to proposed rule. The first requires property transfer inspections beginning two years after the effective date of the majority of the rule. This will allow the LHJs time to build the systems and policies needed to implement the property transfer inspection requirement locally. The second revision is to allow LHOs to waive the property transfer inspection requirement in cases where the OSS is in compliance with routine inspection requirements found in WAC 246-272A-0270. This will allow owners who have appropriately maintained inspection requirements of their OSS to forego the

property transfer inspection and instead rely on the results of their most recent inspection to demonstrate that the OSS is functioning safely and in compliance with the rule's requirements.

- [WAC 246-272-0278] The ORRC proposed that the LHO be required to develop a Remediation Policy, which would describe which, if any, OSS remediation process would be permitted and what the requirements associated with this process would be. LHJ representatives informed the department that this requirement would create unnecessary costs for LHJs, taking resources away from important activities. They argued that developing a policy is costly and time-intensive and that it is not necessary if remediation processes will not be allowed. The department agreed and revised the proposed language to allow, but not require, the LHO to develop a Remediation Policy. This allows the LHO the latitude to develop a Remediation Policy if they determine it is needed, but not if it is not. This potentially limits the cost of this section of the rule.



## **SECTION 7**

**Determination that the rule does not require those to whom it applies to take an action that violates requirements of another federal or state law.**

The proposed rule does not require those to whom it applies to take an action that violates requirements of federal or state law.

## **SECTION 8**

**Determination that the rule does not impose more stringent performance requirements on private entities than on public entities unless required to do so by federal or state law.**

The proposed rule does not impose more stringent performance requirements on private entities than on public entities. The proposed changes in this rule apply equally to all OSS, whether they are publicly or privately owned.

## **SECTION 9**

**Determination if the rule differs from any federal regulation or statute applicable to the same activity or subject matter and, if so, determine that the difference is justified by an explicit state statute or by substantial evidence that the difference is necessary.**

The proposed rule does not differ from any applicable federal regulation or statute.

## **SECTION 10**

**Demonstration that the rule has been coordinated, to the maximum extent practicable, with other federal, state, and local laws applicable to the same activity or subject matter.**

The department coordinated with the Department of Ecology water quality program regarding hydrogeology. The department has coordinated with U.S Environmental Protection Agency (EPA), the ORRC, and the department's Technical Advisory Group. The proposed rule changes have been coordinated to the maximum extent practical with other federal and state laws applicable to the same subject matter:

WASHINGTON STATE DEPARTMENT OF HEALTH

# Small Business Economic Impact Statement

WAC 246-272A  
a Rule Concerning  
On-Site Sewage  
Systems



September 2023

To request this document in another format, call 1-800-525-0127. Deaf or hard of hearing customers, please call 711 (Washington Relay) or email [civil.rights@doh.wa.gov](mailto:civil.rights@doh.wa.gov).

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## SECTION 1

**A brief description of the proposed rule including the current situation/rule, followed by the history of the issue and why the proposed rule is needed. A description of the probable compliance requirements and the kinds of professional services that a small business is likely to need in order to comply with the proposed rule.**

Chapter 246-272A WAC, On-Site Sewage Systems, regulates the location, design, installation, operation, maintenance, and monitoring of on-site sewage systems (OSS). There are approximately 950,000 OSS in Washington that produce around 340,000,000 gallons of wastewater per day. This rule protects public health by minimizing both the potential for exposure to sewage from on-site sewage systems, and the adverse effects of discharges from on-site sewage systems on ground and surface waters.<sup>1</sup>

Local health officers (LHOs) have three options to enforce chapter 246-272A WAC. They can: adopt their own local code; adopted this rule by reference; or defer to chapter 246-272A WAC. The State Board of Health (board) is authorized under RCW 43.20.050 to adopt rules for the design, construction, installation, operation, and maintenance of those on-site sewage systems with design flows of less than three thousand five hundred gallons per day. The Washington State Department of Health (department) implements these rules. The department is required to review chapter 246-272A WAC every four years to evaluate the effectiveness of the rules and determine areas where revisions may be necessary. The department is also required to provide results of the review along with recommendations to the board and local health officers. This requirement was adopted in 2005 and the department completed its first evaluation in 2009 and a subsequent evaluation in 2013. Both evaluations concluded with the finding that no revisions were necessary.<sup>2</sup>

In 2017, the department conducted an evaluation of the existing OSS rule, including gathering feedback on the rules from local health partners and interested parties. In December 2017, the department published the following report on the findings: 2017 Evaluation of the Effectiveness of Chapter 246-272A WAC, On-Site Sewage Systems.<sup>3</sup> The report identified seven key issues and several minor issues that should be considered for possible revision in rulemaking. The seven key issues were: Definitions, Local management plans, Property transfer inspections, Application of treatment levels, Ultraviolet light disinfection effectiveness and approval, Horizontal setbacks (system location) and Statewide service provider licensing. The department briefed the board in January 2018 and the Board directed staff to file a CR-101, Preproposal Statement of Inquiry. Staff filed the CR-101 as WSR 18-06-082 on March 6, 2018.<sup>4</sup>

The Washington state legislature passed Senate Bill 5503 in the 2019 legislative session and it was codified as RCW 43.20.065.<sup>5</sup> The bill addressed repair and replacement of failed systems and system inspections. The law has been addressed in the rulemaking.

To assist and inform the rule revision process, and to ensure that chapter 246-272A WAC consistently promotes safe and effective operation of OSS, the board requested input and review from a statewide representation of diverse interested parties. The department formed the On-Site Rule Revision Committee (ORRC) in June 2018 to serve as this group and foster communication and cooperation between interested parties. The ORRCs role was informal and advisory to the department in this

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<sup>1</sup> Internal Document "2018 Socioeconomic Impact Survey of Hammersley Inlet Shellfish Growers." Available Upon Request.

<sup>2</sup> <https://doh.wa.gov/sites/default/files/legacy/Documents/Pubs/337-152a.pdf?uid=635807f46e5ae>

<sup>3</sup> 2017 Evaluation of the Effectiveness of Chapter 246-272A WAC, On-site Sewage Systems

<sup>4</sup> <https://doh.wa.gov/sites/default/files/legacy/Documents/Pubs/337-152a.pdf?uid=635807f46e5ae>

<sup>5</sup> RCW 43.20.065: On-site sewage system failures and inspections—Rule making

rulemaking. The ORRC proposed, made recommendations, and gave input to the rule. ORRC members include representatives from industry, regulators, consumers, and academia. Two subcommittees were formed to advise on policy and technical issues. The department drafted issue papers on several key topics for both subcommittees. These subcommittees worked on topics, held votes on topics, and ultimately made recommendations to the entire ORRC. The ORRC used a majority rule when considering amendments that were forwarded to the department. There were proposals with unanimous support and others with simple majority.

The ORRC met nine times between June 2018 and February 2020 as a full committee and the department convened many associated subcommittee meetings that reported out to the full ORRC. The department shared a draft with interested parties for informal review and comment. In addition, the department conducted three in-person and one web-based public workshops concluding in October 2019. Based on comments received, the department made several changes to the draft rules. The department worked with environmental health directors from different areas of the state on the ORRC and separately to help fine tune the draft rules.

**The objectives of the proposed OSS rules are to:**

- Incorporate the most recent science and technology standards for OSS;
- Ensure OSS are inspected periodically in all areas of the state to determine whether they are functioning properly to avoid contamination and environmental degradation resulting from a failure; and
- Establish a mechanism for local and state governments to enforce OSS practices that protect the environment and residents of WA state from OSS safety hazards.

The department assumes businesses will have to hire professional engineers, designers, installers, pumpers, and maintenance service providers in various situations to prepare documents and to provide other professional services as described in the significant analysis.

## SECTION 2

### Identification and summary of which businesses are required to comply with the proposed rule using the North American Industry Classification System (NAICS).

**SBEIS Table 1. Summary of Businesses Required to comply to the Proposed Rule**

NAICS Code <sup>6</sup>	NAICS Business Description	Number of businesses in Washington State	Minor Cost Threshold <sup>7</sup>
541330	Engineering Services	1,717	\$7,717
562991	Septic Tank and Related Service	118	\$2,661
327390	Other Concrete Product Manufacturing	49	\$15,846
326199	All Other Plastics Product Manufacturing	98	\$18,869
562998	All Other Miscellaneous Waste Management Services (Maintenance Service Providers)	42	\$14,287
238910	Site Preparation Contractors	2,373	\$4,017
333318	Commercial and Service Industry Machinery Manufacturing (Manufacturers)	109	\$9,003
531210	Offices of Real Estate Agents and Brokers	2,751	\$3,168

<sup>6</sup> U.S. Census Bureau, [North American Industry Classification System \(NAICS\)](#).

<sup>7</sup> Governor’s Office for Regulatory Innovation and Assistance, Regulatory Fairness Act Tools & Guidance, [Minor Cost Threshold Calculator](#).



237210	Land Subdivision	195	\$4,213
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### SECTION 3

**Analysis of probable costs of businesses in the industry to comply to the proposed rule and includes the cost of equipment, supplies, labor, professional services, and administrative costs. The analysis considers if compliance with the proposed rule will cause businesses in the industry to lose sales or revenue.**

**Sectional Analysis:** The sectional analysis includes sections that result in compliance costs to businesses. It does not include sections where businesses provide services to customers for example costs of completing an inspection of an OSS for a client. This is because costs are passed to the clients and clients pay for these additional costs, in this case OSS owners will pay the cost of the services. These costs are not included in this analysis because businesses elect to provide these services and are not obligated to do so. The department anticipates that most new requirements will not cause businesses to lose sales or revenue, with potential exceptions.

**Cost Survey:** To help better understand the costs of each section of the rule, the department developed a cost survey surveying local government environmental health directors, wastewater program staff, and industry members associations that represent them. Cost survey details and methodology is outlined in the Significant Analysis (available upon request).

#### **WAC 246-272A-0120 Proprietary treatment product registration—Process and requirements.**

**Description:** This section establishes the required content and submittal process for manufacturers to use to register their products.

**Cost:** The department received survey responses from nine manufacturers. The department also does not collect cost estimates for non-compliance events so did not complete a survey on the cost of the compliance plan because this only applies if a manufacturer is having problems. SBEIS Table 2 shows the estimated costs for maintenance service providers of taking a pair of samples for E. coli or fecal coliform. Only one of six manufacturers indicated they would hire a third-party contractor to take the required 25 sample sets during a routine maintenance visit due to logistical restrictions. Additionally, 6 out of 11 manufacturers indicated that they already maintain a company website so posting required materials was solely cost to update websites. Six manufacturers provided cost estimates to post the materials. The table does not include the cost of 25 pairs of samples. The department contacted and received cost information for 50 samples. The department was given a cost of \$28 to \$65 per sample<sup>8</sup> depending on the test technique; for a total cost for 50 samples ranging between \$2,000 and 3,250.<sup>9</sup>

**SBEIS Table 2. Estimated cost to adhere to the Field Verification component of the proprietary treatment product registration, process, and requirements\* (from SA Table 6)**

Description	Cost Frequency	N	Range (\$)	Median (\$)	Mean (\$)	Standard Deviation (\$)
Cost to collect a pair (one influent AND one effluent) of samples, during	Unit	5	4.28 - 47.50	24	23.66	16.65

<sup>8</sup> Range: \$28 per sample (Lewis County) to \$65 per sample. [AmTest Laboratories](#) quoted \$40/sample.

<sup>9</sup> \$28 X 50 samples = \$1,400, \$65 X 50 samples = \$3,250.

a routine maintenance service visit NOT including travel						
Cost to collect a pair (one influent AND one effluent) of samples, during a non-routine maintenance service visit (including travel)	Unit	5	For one pair 50 – 292 For 25 pairs 1,250 - 7,300	65	147.10	122.81
Cost to take the pair of influent and effluent samples to the lab	Unit	5	68.50 – 190	120	126.90	50.82

Cost to complete a product field verification process report (not including sampling costs)	Unit	6	144 - 48,000	3188	10,353	18,682
Cost to hire a service provider or a third-party sampler to collect 25 pairs of samples	Unit	6	5,225 - 100,000	20,000	34,038	35,936
Cost to post required materials on website	One-time	6	20 – 450	65	141	170

\*In the past two years the department has received applications for four treatment productions and one distribution product, which helps to estimate the total cost.

**Potential impact on Businesses:** Manufacturers of treatment units will need to arrange for sampling of at least 25 installations of each of their products that are registered as providing DL1, DL2, or TLN treatment. Manufacturers may conduct this sampling or hire a third party to conduct it. It will entail developing a sampling plan, contacting owners and arranging for site visits, collecting samples, delivering samples to a laboratory for analysis, and writing a report synthesizing the laboratory results. If the results demonstrate that the product does not meet the registered treatment level, the product will be reassessed and may be reassigned a treatment level or be removed from registration. If it is removed from registration, it can no longer be sold in Washington.

**WAC 246-272A-0200 Permit requirements**

**Description:** This section specifies the permit application content when a person proposes the installation, repair, modification, connection to, or expansion of an OSS. The proposed change adds a requirement for site maps to include 1) horizontal separations as noted in Table IV in the rule, 2) an elevation benchmark, and 3) relative elevations of system components.

**Cost:** SBEIS Table 3 and Table 4 show the anticipated one-time cost for designers and engineers to add the specified items to their designs. The results of our survey found that 34 of 40 Designer respondents already include these new components in their site plans. Therefore, they would not have additional costs to comply with the rule. The department received survey responses from 10 designers and 10 engineers about adding new elements to designs. SBEIS Table 3 & SBEIS Table 4 presents the estimated costs.

**SBEIS Table 3. Estimated cost to Designers to adhere to permit requirements (from SA Table 7)**

Description (responses)	N	Range (\$)	Median (\$)	Mean (\$)	Standard Deviation (\$)
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One-time cost to add horizontal separations as noted in Table IV into design process	4	6.25-900	250	352	385
Unit cost to put the horizontal separations as noted in Table IV into one OSS design <b>Low-end range**</b>	4	6.25-500	175	164	122
Unit cost to put the horizontal separations as noted in Table IV into one OSS design <b>High-end range**</b>	4	12.50-500	225	241	209
One-time cost to add elevation benchmark as noted in Table IV into design process*	10	6.25-1,200	150	306	409
One-time cost to add relative elevations of system components as noted in Table IV into design process*	7	6.25-900	81	223	316
Unit cost to add relative elevations of system components on one site map* <b>Low-end range**</b>	7	6.25-512	150	170	188
Unit cost to add relative elevations of system components on one site map* <b>High-end range**</b>	6	12.50 - 368	170	368	503

\*These are items covered under WAC 332-130-145 (1).

\*\*Respondents were asked to provide a range of costs (rows are denoted in grey) and the department analyzed the low end and high end of the range to better understand the potential minimum cost and maximum cost of compliance.

**SBEIS Table 4. Estimated cost to Professional Engineers to adhere to permit requirements (from SA Table 8)**

Description (responses)	N	Range (\$)	Median (\$)	Mean (\$)	Standard Deviation (\$)
One-time cost to add horizontal separations as noted in Table IV into design process	8	180 - 22,500	11,050	10,765	7,531
One-time cost to add elevation benchmark as noted in Table IV into design process	10	150 - 8,000	800	1,620	2,348
Unit cost to add elevation benchmarks on one site map <b>Low-end range**</b>	9	37.50 - 3,250	390	731	1,014
Unit cost to add elevation benchmarks on one site map <b>High-end range**</b>	9	300 - 5,200	700	1,351	1,531
One-time cost to add relative elevations of system components as noted in Table IV into design process*	6	200 - 8,000	795	1,932	3,019

\*These are items covered under WAC 332-130-145(1).

\*\*Respondents were asked to provide a range of costs (rows are denoted in grey) and the department analyzed the low end and high end of the range to better understand the potential minimum cost and maximum cost of compliance.

**Potential impact on Businesses:** Designers and engineers will need to incorporate the new items required as part of a permit application and site plan. The department anticipates that there will be an initial period of added costs, effort, and learning while designers and engineers incorporate the new requirements into their practices and routines. However, over time, these requirements are expected to become part of their routine data collection and reporting with marginal impacts.

WASHINGTON STATE DEPARTMENT OF HEALTH

Small Business Economic Impact Statement

Template Updated August 2023

**WAC 246-272A-0210 Location**

**Description:** This section establishes minimum horizontal separations (distance) in Table IV of this section for septic tanks, drainfield and building sewers to various water sources to prevent pollution. The proposed change includes adding any or all of the following components to a site map if they exist on the site: 1) non-public in-ground water containment vessels, 2) closed geothermal loop or pressurized non-potable water line, 3) lined stormwater detention pond; 4) unlined stormwater infiltration pond; or 5) Subsurface stormwater infiltration or dispersion component.

**Cost:** The department received survey responses from 4 designers and 8 engineers on the cost of adding any or all the new source types to site maps. SBEIS Table 5 presents the estimated costs.

**SBEIS Table 5. Estimated cost to include any of all source types to a site map (from SA Table 9)**

Description	N	Range (\$)	Median (\$)	Mean (\$)	Standard Deviation (\$)
<b>Designer</b>					
One-time cost to incorporate the items that you currently do not include from current Table IV into the design process	4	6.25 - 900	250	352	385
One-time cost to incorporate the items that you currently do not include from current Table IV into one OSS design <b>Low-end range*</b>	4	6.25 - 500,241	175	164	122
One-time cost to incorporate the items that you currently do not include from current Table IV into one OSS design <b>High-end range*</b>	4	12.50 - 500	225	241	209
<b>Engineer</b>					
One-time cost to incorporate the items that you currently do not include from current Table IV into the design process	8	180 - 22,500	11,050	10,766	7,531
One-time cost to incorporate the items that you currently do not include from current Table IV into one OSS design <b>Low-end range*</b>	7	0 - 6,000	520	1,207	2,129
One-time cost to incorporate the items that you currently do not include from current Table IV into one OSS design <b>High-end range*</b>	7	300 - 72,000	900	11,121	26,850

\*Respondents were asked to provide a range of costs (rows are denoted in grey) and the department analyzed the low end of the range and the high end of the range to better understand the potential minimum cost and maximum cost to compliance.

**Potential impact on Businesses:** The proposed setbacks will impact some developments (individual lots and subdivisions). By requiring additional setbacks, this may restrict how these lots can be laid out (require house placement in different area or potentially the size/footprint of the house). Conceivably, this could prevent the development of a lot if the extent of threats to water sources, with their associated setbacks, resulted in no viable building site unless the applicant requested and received a

waiver. This impact is difficult to predict because it depends on the existence of the newly proposed components on the protected sources list.

**WAC 246-272A-0270 Operation, monitoring, and maintenance—Owner responsibilities.**

**Description:** This section describes what owners must do for operating, monitoring, maintaining, and inspection of their OSS to minimize the risk of failure and threat to public health.

**Cost:** If the property owner is in compliance with routine inspection requirements,<sup>10</sup> and the inspection was completed by a third-party inspector, there will likely be no additional costs.

**Potential impact on Businesses:** There is expected to be minimal impact to realtors. Real estate purchases in Washington are contracted through a Purchase and Sale Agreement (PSA) form. This form requires an inspection of the OSS. Buyers are currently allowed to waive this requirement. The realtor is responsible for ensuring that the PSA is completed and recording that either the OSS is inspected, or that the buyer has waived the OSS inspection. Under the proposed revisions, the buyer would no longer be permitted to waive the OSS inspection and the realtor would be responsible for recording that the inspection was complete. To reiterate the above, if the property owner is not in compliance with routine inspection requirements there will likely be no additional costs, if the property owner is not in compliance with routine inspection requirements the additional cost to realtors would be time for the owner to bring the OSS into compliance with routine inspection requirements.

**WAC 246-272A-0320 Developments, subdivisions, and minimum land area requirements.**

**Description:** This section establishes minimum land area requirements when proposing land developments or subdivisions. The proposed amendments have potential costs to businesses by: 1) Increasing minimum lot size, 2) Reducing the maximum unit volume of sewage per day per acre from 3.5 to 3.35 for non-residential uses on lots served by public water supplies, 3) Establishing minimum useable land area as a new requirement, and 4) Updating requirements for sub-sized lots. For a more detailed description of these changes see the Significant Analysis.

**Cost:**

**Part 1 Increase minimum lot size:** The department developed tables that show the modest impact of the proposed increase of minimum lot size to lots that can be subdivided (shown in the Significant Analysis). The proposed increase ranges from 500 square feet to 1,000 square feet, depending on soil type. As an example, for soil type 2, the change will require a landowner to have a minimum of .30 of an acre lot to create a lot compared to the .29 acre (1/100 of an acre impact) and for a 10-lot subdivision the minimum size of subdividable lot would have to be 11/100 of acre larger.

**Potential impact on Businesses:** In general, the department does not anticipate that the proposed rule will impact developers' sales/revenue. The department acknowledges that there could be potential scenarios where developers are affected by the rule but in general most subdivisions will not be affected. The potential impact of the rule could be seen if the development is over 20 acres AND the developer is developing the lots to be as small as possible.

**Part 2 Reduce the maximum unit volume of sewage per day per acre:** SBEIS Table 6 describes the change from 3.5 to 3.35 maximum volumes of sewage per day per acre for non-residential uses on lots served by public water supplies. To understand the costs, SBEIS Table 6 and SBEIS Table 7 outline the maximum unit volume of sewage per acre under the current and proposed rule.

**SBEIS Table 6. Calculation of maximum unit volume of sewage per acre under current rule (from SA Table 20)**

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<sup>10</sup> WAC 246-272A-0270(1)(e)

Current Rule	
Known Variables	Minimum Lot Size = 12,500 sq ft. 1 acre = 43,560 sq ft Unit Volume of Sewage = 450 Gallons of Sewage per Day
Maximum unit volumes of sewage per acre for non-residential uses on lots served by public water supplies	1 acre / Minimum Lot Size = Unit Volumes of Sewage per Acre  43,560 sq ft / 12,500 sq ft = 3.48 ≈ 3.5 Unit Volumes of Sewage per Acre
Unit volumes of sewage converted into gallons per acre	Unit Volumes of Sewage per Acre x Gallons of Sewage per Unit Volume of Sewage  3.5 Unit Volumes of Sewage per Acre x 450 gallons per day = <b>1,575 Gallons of Sewage per Day per Acre</b>

**SBEIS Table 7. Calculation of maximum unit volume of sewage per acre under proposed rule (from SA Table 21)**

Proposed Rule	
Known Variables	Minimum Lot Size = 13,000 sq ft. 1 acre = 43,560 sq ft Unit Volume of Sewage = 450 Gallons of Sewage per Day
Maximum unit volumes of sewage per acre for non-residential uses on lots served by public water supplies	1 acre / Minimum Lot Size = Unit Volumes of Sewage per Acre  43,560 sq ft / 13,000 sq ft = 3.35 Unit Volumes of Sewage per Acre
Unit volumes of sewage converted into gallons per acre	Unit Volumes of Sewage per Acre x Gallons of Sewage per Unit Volume of Sewage  3.35 Unit Volumes of Sewage per Acre x 450 gallons per day = <b>1,508 Gallons of Sewage per Day per Acre</b>

The proposed amendment maximum quantity of sewage that can be generated by non-residential uses on lots served by public water supplies is therefore reduced from 1,575 gallons per day per acre to 1,508 gallons per day per acre. This is a reduction of 67 gallons per day per acre (a decrease of about 4%).

Potential impact on Businesses: The department is unable to estimate how this will affect businesses. The department acknowledges that businesses could be impacted by the rule by the reduction of 67 gallons of sewage per day per acre.

**Part 3 Establish minimum useable land area as a new requirement:** The cost to designers to incorporate the proposed minimum useable land requirement into an OSS design was collected during the cost survey, but as the costs will likely be passed onto the consumer and not be a cost to businesses, the department did not include the cost in this section.

Potential impact on Businesses: Lots created for commercial usage that will be served by an OSS will be required to have a minimum area of land that is usable for an OSS. Land subdivisions that will be served by OSS will need to be planned and configured so that each lot contains the required minimum usable land area.

**Part 4 Update requirements for sub-sized lots:** The amendments are based on the premise that lots sized in compliance with Table XI in the rule adequately protect groundwater and surface water resources from nitrogen impacts. Smaller lot sizes are allowed if nitrogen is treated at the same proportion that the lot is smaller than the Table XI requirement. This allows OSS to be installed on lots

that do not meet Table XI’s requirements (sub-sized lots) while ensuring that groundwater and surface water is protected. Using this methodology, new planned developments can be designed with lots as small as half the size of Table XI’s minimum lot sizes by installing nitrogen treatment technology that takes the place of the land area that is otherwise used to treat and dilute nitrogen. Developers may choose to pay more for OSS which treat nitrogen in exchange for using less land area and get more lots from a subdivision.

Potential impact on Businesses: Developers may choose to pay more for OSS that treat nitrogen in exchange for using less land area. The result is more lots from a subdivision and a higher cost OSS on each lot.

**Summary of all Costs**

Due to the large number of requirements of the proposed rule, coupled with the fact that many of the requirements do not universally apply to businesses, many costs are indeterminate, and it is not possible to compute the total incremental costs of the revised rules. The department anticipates that most new requirements will not cause businesses to lose sales or revenue, with potential exceptions as noted in this document.

**SECTION 4**

**Analysis on if the proposed rule may impose more than minor costs for businesses in the industry. Includes a summary of how the costs were calculated.**

Yes, the costs of the proposed rule are greater than the minor cost threshold (SBEIS Table 8).

**Summary of how this determination was made**

SBEIS Table 8 shows the reported estimated costs of selected sections of the rule (that will affect businesses) and that the proposed rule will likely impose more than minor costs for businesses in the industries.

**SBEIS Table 8. Summary of costs to businesses**

NAICS name/number	Minor Cost Threshold (\$)	Requirement/section	Reported Estimated Cost (\$)*
Engineers / 541330	\$7,117	One-time cost to incorporate the items that you currently do not include from current Table IV into the design process (WAC 246-272A-0210)	\$10,000 \$12,100 \$15,625 \$16,900 \$22,500
Manufacturers / 33318	\$9,003	Cost to hire a service provider or a third-party sampler to collect 25 pairs of samples (WAC 246-272A-0120)	\$20,000 \$20,000 \$50,000 \$100,000

\*Each cost listed represents an individual response from the survey. Results are not intended to be summed but intended to be the cost to each individual business to comply with the individual rule section.

**SECTION 5**

**Determination on if the proposed rule may have a disproportionate impact on small businesses as compared to the 10 percent of businesses that are the largest businesses required to comply with the proposed rule.**

Yes, the department believes the proposed rule may have a disproportionate impact on small businesses as compared to the 10 percent of businesses that are the largest businesses required to comply with the proposed rule.

#### **Explanation of the determination**

The department makes this determination based on examining cost per employee criteria. Many of the cost are comparable for small and large businesses. Therefore, because smaller businesses have fewer employees, their cost per employee will be higher (disproportionate) than the cost per employee of larger businesses.

#### Thoughts on disproportionate impacts to small businesses:

Installers will need to incorporate new requirements into their installation practices. Initial implementation costs may be elevated as new requirements and practices are learned and refined. This may cause some uncertainties for installers as contracts are bid and accepted under the rule's new requirements. Over time, the new requirements are expected to become common practice with marginal impacts as compared to current practices and costs. The department assumes costs will be passed to customers with no long-term negative impacts to installers.

Engineers and Designers will need to incorporate new requirements into their design practices. Initial implementation costs may be elevated as new requirements and practices are learned and refined. This may cause some uncertainties for engineers and designers as contracts are bid and accepted under the rule's new requirements. Engineering firms and designers are generally adept at learning new requirements and applying their costing structure to ensure that costs are covered, and profits maintained and appropriate margins. Over time, the new requirements are expected to become common practice with marginal impacts as compared to current practices and costs. The department assumes costs will be passed to customers with no long-term negative impacts to engineers or designers.

Maintenance Service Providers are often some of the largest companies involved in the onsite sewage industry. Maintenance service providers will need to incorporate new requirements into their installation practices. Initial implementation costs may be elevated as new requirements and practices are learned and refined. In particular, new requirements for inspections may be challenging for maintenance service providers to incorporate into their practices and costing structures. This may cause some uncertainties for maintenance service providers as service is provided under the rule's new requirements. Over time, the new requirements are expected to become common practice with marginal impacts as compared to current practices and costs. The department assumes costs will be passed to customers with no long-term negative impacts to installers.

Manufacturers vary from very small and local to very large and international. Manufacturers of disinfecting proprietary treatment products will be required to conduct field verification of all of their registered products. This is a new requirement and practice and may elevate costs to manufacturers as they undertake field verification of their products. Over time, the new requirements are expected to become common practice with costs minimized and processes streamlined. The department assumes most costs will be passed to customers with no long-term negative impacts to manufacturers. Some manufacturers may elect to adjust their prices to offset the projected impacts while others are expected to wait to review impacts before adjusting prices.

Realtors will need to ensure that OSS property transfer inspections happen for all property sales, unless you already in compliance with routine inspection requirements in the rule. This is already part of their work. The Purchase and Sale Agreement that accompanies all property sales includes an OSS inspection



addendum. The new requirements will preclude buyers from waiving this inspection. There is expected to be little to no long-term negative impact to realtors.

Developers will need to plan subdivisions with slightly larger lot sizes if they are subdividing/building at the minimum lot sizing (i.e., the maximum density) allowed. The number of lots created from a subdivision would be impacted if the lots were the smallest size allowed and the subdivision was over 20 acres. The department does not have information on the frequency of this type of subdivision required to make a determination of the disproportionate impact to small businesses but anticipates that the impacts would be marginal when compared to proceeds from sale of lots.

## **SECTION 6**

**If the proposed rule has a disproportionate impact on small businesses, the following steps have been identified and taken to reduce the costs of the rule on small businesses. If costs cannot be reduced an explanation has been provided below about why the costs cannot be reduced.**

### **1. Reducing, modifying, or eliminating substantive regulatory requirements.**

The department convened the on-site rule revision committee (ORRC). Its members took great interest in minimizing impact of the draft rules by reducing, modifying, and eliminating the requirements when appropriate. The ORRC included eight representatives from industry, including manufacturers, installers, designers, engineers, maintenance service providers and realtors. The department also was aware and considered the impact of every provision when drafting the rules.

### **2. Simplifying, reducing, or eliminating recordkeeping and reporting requirements.**

Similar to above, the ORRC was very aware and attempted to limit the impact to all parties when drafting the rules and attempted to simplify, reduce and eliminate recordkeeping and reporting requirements when possible.

### **3. Reducing the frequency of inspections.**

The rule does not require inspections of any businesses. OSS are required to be inspected to protect public health. Most OSS are owned and operated by private residential owners. Some businesses are served by an OSS. The proposed rule requires all OSS are inspected at the time of property transfer. The proposal allows the local health officer to remove the property transfer inspection for any OSS that is in compliance with routine inspections requirements that are already required for all OSS. This will significantly reduce the frequency of inspections.

### **4. Delaying compliance timetables.**

The department plans to recommend delaying the effective date of most provisions in the rule by one year to enable local health officers, industry practitioners, and interested parties to work on implementation. The department also plans to recommend delaying implementation of the property transfer inspection provision two additional years to allow more time to prepare for implementation. The board will take these recommendations under consideration at the time of the public hearing and rule adoption.

### **5. Reducing or modifying fine schedules for noncompliance; or**

The proposed rules do not add any new fining authority or new fine schedules.

### **6. Any other mitigation techniques including those suggested by small businesses or small business advocates.**

Several changes that will reduce burdens and save costs for small businesses are included in the proposed rule. Some of the proposed improvements include:

- Streamlining and digitizing the proprietary product renewal process;

WASHINGTON STATE DEPARTMENT OF HEALTH

Small Business Economic Impact Statement

Template Updated August 2023

- Adding testing and registration options for proprietary products;
- Adding a provision that manufacturers of proprietary products can use replacement components that their products have not been tested with in cases of supply chain or manufacturing disruption; and
- Adding an allowance for local health officers to develop a policy allowing remediation practices.

## **SECTION 7**

### **Description of how small businesses were involved in the development of the proposed rule.**

The ORRC included eight representatives from industry, including manufacturers, installers, designers, engineers, maintenance service providers and realtors. Each of these representatives represented the interests of small businesses. The ORRC gave input on all aspects of the draft rule that was released for informal comment. The department received and reviewed several comments from small businesses and small business advocates. The department made adjustments to the draft rule to reduce burdens and perceived burdens noted by commentors.

The department also developed a proposed revision to include the new proprietary product field verification requirement as proposed by the ORRC to the standards document that details the processes of registering proprietary products. The department invited all manufacturers that currently have registered proprietary treatment products in Washington, as well as representatives of the state and national manufacturers' associations, to participate in a workgroup to draft this document.

## **SECTION 8**

### **The estimated number of jobs that will be created or lost in result of the compliance with the proposed rule.**

The impact of the revised rules on jobs is indeterminate. However, as the rule increases the number of inspections, this could result in increased employment for inspectors, pumpers, and maintenance service providers.

## Board Authority

### RCW [43.20.050](#)

#### **Powers and duties of state board of health—Rule making— Delegation of authority—Enforcement of rules.**

(1) The state board of health shall provide a forum for the development of public health policy in Washington state. It is authorized to recommend to the secretary means for obtaining appropriate citizen and professional involvement in all public health policy formulation and other matters related to the powers and duties of the department. It is further empowered to hold hearings and explore ways to improve the health status of the citizenry.

In fulfilling its responsibilities under this subsection, the state board may create ad hoc committees or other such committees of limited duration as necessary.

(2) In order to protect public health, the state board of health shall:

(a) Adopt rules for group A public water systems, as defined in RCW [70A.125.010](#), necessary to assure safe and reliable public drinking water and to protect the public health. Such rules shall establish requirements regarding:

(i) The design and construction of public water system facilities, including proper sizing of pipes and storage for the number and type of customers;

(ii) Drinking water quality standards, monitoring requirements, and laboratory certification requirements;

(iii) Public water system management and reporting requirements;

(iv) Public water system planning and emergency response requirements;

(v) Public water system operation and maintenance requirements;

(vi) Water quality, reliability, and management of existing but inadequate public water systems; and

(vii) Quality standards for the source or supply, or both source and supply, of water for bottled water plants;

(b) Adopt rules as necessary for group B public water systems, as defined in RCW [70A.125.010](#). The rules shall, at a minimum, establish requirements regarding the initial design and construction of a public water system. The state board of health rules may waive some or all requirements for group B public water systems with fewer than five connections;

(c) Adopt rules and standards for prevention, control, and abatement of health hazards and nuisances related to the disposal of human and animal excreta and animal remains;

(d) Adopt rules controlling public health related to environmental conditions including but not limited to heating, lighting, ventilation, sanitary facilities, and cleanliness in public facilities including but not limited to food service establishments, schools, recreational facilities, and transient accommodations;

(e) Adopt rules for the imposition and use of isolation and quarantine;

(f) Adopt rules for the prevention and control of infectious and noninfectious diseases, including food and vector borne illness, and rules governing the receipt and conveyance of remains of deceased persons, and such other sanitary matters as may best be controlled by universal rule; and

(g) Adopt rules for accessing existing databases for the purposes of performing health related research.

(3) The state board shall adopt rules for the design, construction, installation, operation, and maintenance of those on-site sewage systems with design flows of less than three thousand five hundred gallons per day.

(4) The state board may delegate any of its rule-adopting authority to the secretary and rescind such delegated authority.

(5) All local boards of health, health authorities and officials, officers of state institutions, police officers, sheriffs, constables, and all other officers and employees of the state, or any county, city, or township thereof, shall enforce all rules adopted by the state board of health. In the event of failure or refusal on the part of any member of such boards or any other official or person mentioned in this section to so act, he or she shall be subject to a fine of not less than fifty dollars, upon first conviction, and not less than one hundred dollars upon second conviction.

(6) The state board may advise the secretary on health policy issues pertaining to the department of health and the state.

[ 2021 c 65 § 37; 2011 c 27 § 1; 2009 c 495 § 1; 2007 c 343 § 11; 1993 c 492 § 489; 1992 c 34 § 4. Prior: 1989 1st ex.s. c 9 § 210; 1989 c 207 § 1; 1985 c 213 § 1; 1979 c 141 § 49; 1967 ex.s. c 102 § 9; 1965 c 8 § 43.20.050; prior: (i) 1901 c 116 § 1; 1891 c 98 § 2; RRS § 6001. (ii) 1921 c 7 § 58; RRS § 10816.]